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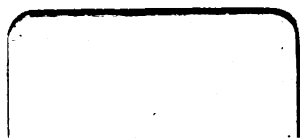
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# MERCK'S ARCHIVES

—OF—

## MATERIA MEDICA AND DRUG THERAPY

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A MONTHLY JOURNAL FOR THE PRACTICING PHYSICIAN

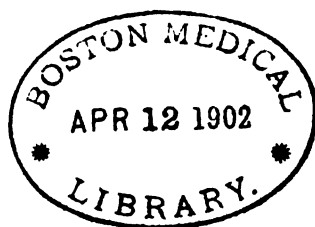
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### Some Notable Gains in Materia Medica during the Nineteenth Century

AT present one of the most popular themes of discussion in journals of every kind is the triumphs of the last century over Nature, and their relative importance as compared with those made during preceding centuries. The general verdict appears to be that in every department of human effort and thought no other century is in any manner comparable with the nineteenth. Indeed, the consensus of opinion is that nothing short of a millennium of preceding time can come anywhere near showing so immense a gain. Some go so far as to hold that it requires the combined gains of all past historic time to match the successes of this one century.

It is a pleasing fact to us that in this swift and certain race for human weal, materia medica and therapeutics, in spite of the pessimistic claims of doubters, have held their own with other departments of modern science along lines of practical research and empiric discovery. So far as generalization and the enunciation of fundamental natural laws are concerned, very little has been done, although even here there has been enough to enable the far-seeing to spell out success for the workers of the twentieth century.

Among the grand problems which the pioneers of therapeutic philosophy are con-

sidering, the one that holds out the greatest hope comes from chemistry. As yet practically nothing has been done with it by the therapist. Perhaps more than a century of research will be required to gather sufficient facts to render it more than a dream. We refer to the attempt being made to discover the connection between molecular structure and the physiological effects of organic bodies. We know that the carboxyl group always produces a sour taste and that the acidity of organic bodies increases in the ratio of the weight of the molecule to the number of carboxyl groups that it carries. It has raised the question as to whether or not the physiological and therapeutic qualities of every substance are not functions of structure and weight. Mendeleeff's law is the expression of this principle for inorganic matter.

Spurred on by what is already known in this direction, a host of chemists are at work on this problem because of the promise of fame and fortune which it holds out to them. They are trying to discover what is the structural cause of variations in color, variations in taste, and variations in other properties, in order to know how to command the production of such substances as possess a given set of valuable properties. Recent discoveries in the laws of solubili-

ties are helping in the solution of this problem by showing how many properties are due to what are known as ions, or free atoms and free compound radicals, charged with opposite qualities of electricity. This discovery has taught us that salt does not owe its physiological properties to molecules of sodium chloride, but to free atoms of chlorine and free atoms of sodium charged respectively with positive and negative electricity. The ions, therefore, have to be looked to in future to give up the secrets of quality in accordance with the periodic law.

A century ago Dr. Benjamin Smith Barton, Professor of Materia Medica in the University of Pennsylvania, wrote in his "Collection for an Essay Towards a Materia Medica of the United States" (Bulletin of the Lloyd Library of Botany, Pharmacy, and Materia Medica, No. 1, 1900; Reproduction Series, No. 1, xi): "I am not ignorant that there are some persons who consider the science of medicine as a science of extreme simplicity; who believe, or affect to believe, that in the treatment of diseases, we have arrived at something like the *ultimatum* of perfection. We are already, say these persons, in possession of all the means that are necessary for the alleviation, or for the cure, of our diseases. It is needless then to ransack nature any further."

Suppose the men who held such views one hundred years ago should now be resurrected and enabled to realize fully the extent and quality of our medical supplies, what would they be likely to think of them? Let them have placed before them chloroform, ether, cocaine, and the various external and internal antiseptics now at our command, and have them see how we rationally use them. Would it not be a great revelation to them and a complete rebuke to their old-time conceit? Although we have barely made a start along the road of therapeutic progress, there are still many medical men who act as if inwardly convinced of the truth of the fallacy so neatly challenged by Prof. Barton. So numerous and so startling have been the accessions of the past few years that no one now dares

for very shame openly to avow this doctrine. The conduct of these doubters, however, confirms this interpretation of their methods and silence. If pressed to explain their true position, some of the more knowing ones would no doubt confess their skepticism, and, in justification, refer to the apparent fact that most gains now being made in materia medica are within the limits of a few distinct classes of remedies. We have been discovering hypnotics, analgesics, antiseptics, and antipyretics by wholesale and every eye is fixed chiefly upon these. The men who believe that we are at the end of useful discovery ask us what we are getting beside these. To superficial thinkers this question is difficult to answer, but after a little consideration it is discovered to be pointless. Are we not also getting cough-relieving remedies, substances that stimulate digestion and secretion of digestive fluids, bodies that check hemorrhage through the nervous system without the production of a clot, local anesthetics, tasteless antiperiodics, substances that act antiseptically after reaching the bladder and that relieve the victims of uric-acid poisoning, serums that act as specific destroyers of diphtheria, and last, but not least, glandular secretions, like those of the thyroid gland, that supply deficiencies of the normal constituents of the blood, the absence of which perverts metabolism. Surely these belie the claims of those who hold that discovery is being confined to but a few classes of remedies, however numerous they may be individually.

It is probable that the discovery of new classes of drugs will go on until they become as embarrassing in their numbers as the special new remedies already are. There will not, however, be any reasonable cause for rebellion against such progress. The more there are the more will be the opportunities for natural selection to get in its good work and give us a decided survival of the fittest. A proper censorship, to act as a directing agent protecting the profession from deception, is all that is needed to put everything appertaining to materia medica on a perfectly sound basis. May this censorship be quickly established!

[Written for MERCK'S ARCHIVES]

## THE RATIONAL TREATMENT OF PULMONARY HEMORRHAGE

By William J. Robinson, Ph.G., M.D., New York

IN no class of cases is the *raison d'être* of the medical profession so apparent, in no class of cases is the presence of a tactful and competent physician so welcomed and appreciated as in emergency cases, and no other class of cases presents in equal measure the opportunities for the making and the unmaking of a physician's reputation; because it is in those sudden, life-threatening accidents that he is enabled to demonstrate, more than anywhere else, what his skill and knowledge can do over and above the *vis medicatrix naturæ*. It therefore follows that however uncertain and vacillating a physician may be in his treatment of ordinary diseases, he must have clear-cut ideas and a well thought-out plan of treatment when he is called to an emergency case. And the young physician who is always on the alert and is always found well prepared to treat such cases is likely to become a successful practitioner—successful financially and successful in saving many human lives.

Among emergency cases, hemorrhages from the various organs occupy a prominent place, and in this paper we will take up the treatment of one of the commonest forms of hemorrhage—hemorrhage from the lungs. Throughout this article we use the term pulmonary hemorrhage as distinct from hemoptysis; the expectoration of slight amounts of blood, or a blood-tinged sputum requires very little treatment, aside from that of the causative disease, which—in nine cases out of every ten—is tuberculosis.

To enter into a discussion of the etiology and diagnosis of pulmonary hemorrhage is superfluous; no subject is better known; its differential diagnosis from hematemesis is more difficult on paper than it is in real practice; as a rule, a correct diagnosis is made by the patient before the arrival of the physician.

The important question, then, is: What are we *to do* when called in to treat a case of hemorrhage from the lungs? The very first thing to do is to allay the anxiety of the patient and that of his friends and relatives. It is well known that the extreme shock in which we sometimes find patients with pulmonary hemorrhage is due not so much to the actual loss of blood as to mental and psychic influences; it is the sight of blood—especially in those with first attacks—and the fear of bleeding to

death that are important factors. A few kind and encouraging words from the physician to the effect that the bleeding will soon stop and that there is no imminent danger, act like balm on the patient and *go far toward the actual checking of the hemorrhage*. I lay special stress on the last point. The condition of shock the patient is in tends to contract the cutaneous arterioles and capillaries and, by thus forcing the blood towards the visceral vessels, increases the intrapulmonary blood-pressure; the direct and immediate result of this is an aggravation of the hemorrhage, both in duration and in severity. Now, by relieving the mental anxiety of the patient, the cutaneous vessels relax—as is evidenced by the deathly paleness of the face giving way to a natural color—and the amount of blood in the lungs is directly diminished. We thus see that the reassuring words have not only a humanitarian value in that they decrease anxiety and suffering, but exercise a beneficial influence on the hemorrhage itself.

The next thing to do, if it has not been done already, is to unloosen the clothing of the patient and to put him down in a semi-recumbent position. I prefer the semi-recumbent to the recumbent position for the following reason chiefly: it facilitates the expectoration of the exuded blood and mucus. While we must do all in our power to prevent further bleeding, there is no object in attempting to retain in the bronchi and alveoli the blood that is already there; in fact, such retention can only have a doubly pernicious effect; first, by its decomposition it is likely to give rise to bronchitis and broncho-pneumonia, sometimes of a particularly pernicious type; second, its presence prolongs an irritation and cough, which are antagonistic to the sealing up of the bleeding vessel. In fact, the possibility of asphyxia being caused by the overfilling of the bronchi with blood cannot be altogether excluded. The second reason for my objection to the recumbent posture is that such a position favors the regurgitation of blood from the diseased lung into the healthy one—a condition which common sense tells us must be prevented at all hazards. A third reason is that in the recumbent position the heart beat is stronger than in the semi-recumbent; and in pulmonary hemorrhage, as in all other hemorrhages, a strong heart-beat is not a desideratum; it is only in condition of extreme collapse that cardiac stimulation may become imperative, as we shall see later on. The patient must remain in the position he is in, as quiet as



possible; he must make no movement of any kind. Should he become tired of the one position, he should be laid temporarily flat on his back, or he should be turned on the *affected* side. Never allow the patient to lie on the healthy side, for two reasons: first, the healthy lung is the one which almost alone carries on the function of respiration, and naturally it must remain as free as possible; second, lying on the healthy side would favor the regurgitation of blood from the diseased into the healthy lung—a thing which, as mentioned above, must be avoided.

We now come to the medicinal treatment. For pulmonary hemorrhage there is no drug in the entire materia medica equal or even comparable to morphine. And a hypodermatic injection of morphine should immediately be administered, as soon as the patient has been put in the proper position. I usually administer  $\frac{1}{4}$  grn. of morphine sulphate combined with  $\frac{1}{120}$  grn. of atropine sulphate. Some physicians give the atropine as high as  $\frac{1}{40}$  or even  $\frac{1}{20}$  of a grain, but I have never employed such high doses and do not consider them necessary. The effect of the morphine in this condition is wonderful: it exceeds by far anything one would expect from knowledge of the drug's physiological effects only. Undoubtedly, besides exercising a beneficial effect on the turbulent heart and circulation, and on the respiratory movements of the lung, it does material good by allaying anxiety and diminishing cerebral activity. The usefulness of atropine, which acts as a stimulant to the respiratory center, has been disputed by some; but there can hardly be any doubt that slight stimulation, to overcome the depressing effect of the morphine on the poorly working lungs, is desirable. While it should be our endeavor to diminish pulmonary activity as much as possible, we must not go outside of the limits of safety. It must be remembered that the danger of asphyxia in this condition is not altogether problematical. The atropine has another beneficial effect: it relaxes the cutaneous vessels, increasing the amount of blood in them and thus diminishing the amount of blood in the lungs.

There are two other substances which I occasionally use as adjuvants to the morphine-atropine: sodium chloride (or common salt) and aromatic sulphuric acid. The hemostatic value of those two substances is, in my opinion, based upon personal experience, established beyond doubt. The sodium chloride I give in teaspoonful doses, dry on the tongue; the dose of the elixir of vitriol ranges from 20 minims to a

teaspoonful, diluted with one or two table-spoonfuls of water and repeated if necessary. I also order a large thin ice-bag (bladder), partially filled with finely chopped ice, to be put over the region of the heart or over the affected lung; the ice-bag is enveloped in a towel or laid over the shirt; it should never be put on the bare skin.

I confess that the rationale of the favorable action of the ice-bag is not quite clear—to my mind at least. In fact, were we to base its use upon theoretical considerations alone, it would appear unjustified; for, contracting the cutaneous capillaries it must tend to increase the flow of blood toward the deeper vessels. But, first of all, it is possible that by reflex action a deeper effect is produced and that the vascular system of the entire lung undergoes a sort of contraction; second, the ice has a distinctly favorable effect in soothing and regulating the action of the heart—this fact is established beyond any doubt; and, third, the patients claim that they feel subjectively better and they think the ice does them good. It is not advisable, though, to keep on the ice-bag uninterruptedly, for fear of chilling or even freezing the skin. I have seen several instances where the skin—possessing apparently a very low resisting power—became actually frozen and mortified. I generally order the ice kept on for an hour at a time, every hour or two. The intervals give the skin a chance to regain its normal vitality and resistance.

The treatment as above outlined is the one I pursue in almost all cases; there are but few cases of pulmonary hemorrhage which will resist this treatment. In those rare cases where the blood comes in gushes and where we may fear extreme exsanguination and immediate death, there is another expedient which has proved extremely valuable. I refer to tying or cording of the extremities. Tying a cord around the legs only may be sufficient, but in some cases the arms must also be included. The tying must be done close to the trunk; the material is rubber tubing or strips of linen; the degree of tightness must not be such as to interfere materially with the arterial circulation; it must be sufficient to prevent the return of the venous blood. This expedient sometimes—though unfortunately not always—works like magic: the bleeding stops *instantly*. The running continuous stream of blood being interrupted at several points, the *vis a tergo* is almost entirely lost, and the blood in the pulmonary system is at a comparative standstill.

I now come to a consideration of a number of other drugs which, from time immemorial, have been recommended in hemoptysis and pulmonary hemorrhage, and which are still recommended in every routine text-book on medicine and therapeutics. These drugs are: ergot, hydrastis and hydrastinine, gallic and tannic acids, lead acetate, silver nitrate, ferrous and ferric salts, and alum. I am so thoroughly convinced not only of the uselessness, but of the positive and serious harmfulness of most of the above-mentioned drugs that the subject of how not to treat a pulmonary hemorrhage becomes of paramount importance and must claim our serious attention. And one of the motives in writing this paper was clearly and strongly to point out how *not* to treat, how *not* to injure patients with bleeding lungs.

How purely local astringents, like iron salts, lead acetate, silver nitrate, alum, gallic and tannic acid, could have any effect on an ulcerated artery or ruptured aneurism in the *lungs*, when put into the stomach, is beyond all comprehension. The above-referred-to drugs may be indicated in hemorrhage from the stomach and intestines, because there they come in direct contact with the bleeding surface; they may even be useful in renal and vesical hemorrhage, because some of them are excreted by the kidneys, and the urine thus acquires an astringent property. If we brought them in direct contact with the lung tissue, they would also prove beneficial, especially in mild cases. For instance, in cases of hemoptysis I found positive benefit from deep spraying with a solution of alum or a solution of ferric subsulphate (10 to 30 drops of Monsel's solution to an ounce of water). But to put local astringents in the stomach with the expectation that they would stop up the bleeding vessels in the lung—well, no greater therapeutic absurdity has ever been committed! It is simply another sad commentary on the crude empiricism of some of our older—and also newer—practitioners. But it is not the mere uselessness of those drugs; it is their positive injuriousness, which may sometimes help towards or accelerate a fatal termination, as I have had occasion to convince myself by personal experience, which compels me to condemn them with all the emphasis at my command. I was recently called in to see a patient, who for the last four to five days had been suffering with frequently repeated hemorrhages. His physician had treated him with gallic acid; 15 grains of gallic acid were administered every three

hours, day and night. Each time the powder was administered—from a few minutes to half an hour afterward—the patient would be taken with nausea and retching; frequently there would be vomiting and invariably afterwards there would be a hemorrhage, of varying duration and intensity. After the first two days the hemorrhage recurred only after taking the powder. Here we can plainly see how Nature's strenuous attempt at forming a thrombus was being disturbed and frustrated by an ill-advised therapy. I stopped the gallic acid, ordered small doses of morphine in bitter-almond water, and while the sputum was streaked with blood for several days more, there was no further recurrence of the hemorrhage. And it is herein that the danger lurks in the above-mentioned drugs—in their ruinous effect on the digestion and the consequent lowering of nutrition (which in the poor consumptive is at a low ebb, anyway), and in the nausea, retching, and vomiting which they cause; the latter by-effects are, of course, direct exciting causes of further hemorrhages.

Ergot is of such extended—we might say universal—use in pulmonary hemorrhage, that the subject deserves special and separate consideration. While it is not exceptional, nowadays, to hear a voice raised against the use of local astringents, the opponents of ergot in hemoptysis are so far very rare; it is still recommended in nine out of every ten text-books on medicine and therapeutics. I therefore consider it my duty to analyze the contraindications to ergot in detail.

We physicians look down with contempt upon the layman for the illogical reasoning and false deductions he indulges in the matter of diseases and their cure; we laugh at him for his comparison of non-comparable affections, and pity him for his false hopes and childish expectations. Because a mixture cured a cough due to a bronchitis he feels disappointed if it fails to do the same thing in a cough due to pulmonary tuberculosis. Because an innocent lipoma has been excised and has never returned, he is indignant at our inability to do the same thing with a malignant epithelioma; and so on. But are we not doing the same thing every day? Do we not jump at conclusions which are absolute *non-sequiturs* and which have no justifiability, either in theory or in fact? Do we not only too frequently mistake *post hoc* for *propter hoc*? Do not many of our hypotheses, when subjected to cool, sober analysis, appear like mere childish fancies? Because ergot will

stop a hemorrhage from the uterus, we jump at the conclusion that it will do the same thing with a hemorrhage from the lung. But is there a rational basis for such a belief? Are the two organs—their structure, their blood supply, and their nervous control—similar to one another? If a gravid or puerperal uterus contain a partly detached ovum or some debris following a miscarriage or natural labor, and we administer ergot, the ergot will have a most decided and unmistakable effect. It will initiate or strengthen uterine contractions and will cause the uterus to expel the foreign body. Would it, therefore, be reasonable to expect that a foreign body—let us say a cork—swallowed into the bronchus would be expelled by the administration of ergot? Absurd, you say? No more absurd—not much more, at any rate—than to expect that ergot will stop hemorrhage from the lungs, just *because* it stops hemorrhage from the uterus. Here in the uterus we have a great number of bleeding vessels, imbedded in an enormous mass of hypertrophied muscular tissue. A special center in the lumbar region presides over that mass of muscular tissue. Stimulated by ergot, the center sends its command to the uterus—and the uterus contracts! And in this contraction there is the whole secret of uterine hemostasis, so far as ergot is concerned. As in a vise, the contracted muscular tissue keeps each bleeding vessel, until a little thrombus has been formed and its mouth has been effectually sealed up. It is not on account of any specific action of the ergot on the blood or on the blood-vessels; it is on account of its specific power to produce uterine contractions. It is superfluous to add that no such condition of affairs exists in the lungs; that the lung cannot be made to contract over its bleeding vessels. But has ergot no effect on the arterioles themselves? Yes, it has, but in the case of pulmonary hemorrhage the effect reacts injuriously. Whether the ergot acts directly upon the walls of the arterioles or through the vaso-motor center in the medulla, is of no great consequence; the latter theory is the one which is most generally accepted at the present time. But whichever it may be, the fact is admitted that ergot increases the blood pressure; and increasing the blood pressure means driving the blood with greater force toward the open mouths of the ruptured vessels; it means greater resistance to the formation of a thrombus. Bradford and Dean have demonstrated that ergot causes a rise of pressure in the pulmonary circuit as well as in the aortic, and that this must have a

disastrous effect on the course of the hemorrhage there can be no doubt.

In my opinion, failure to discriminate between the essentially different conditions of hyperemia and hemorrhage is responsible to a great extent for the improper use of ergot. In congestion and low types of hyperemia, ergot, by increasing the blood pressure, does good; the circulation is stimulated and the congestion is relieved. All the blood-vessels being under equal tension, no damage can accrue. But if there be one leak in that circuit, the blood will simply ooze out through that leak with all the more readiness, in obedience to the law of the path of least resistance.

We are confronted with a similar condition in the brain. Ergot is positively useful in cerebral congestion, but there are few physicians so ignorant as to administer it in apoplexy. As Wood says, "Ergot is still much used for the relief of chronic cerebral and spinal congestion. When there is a rupture of the vessels, as in *apoplexy*, by increasing the blood pressure it tends to do harm rather than good."

As regards hydrastis and hydrastinine, the drugs appear to be more useful in hemoptysis than in hemorrhage; in the latter condition the results have not been striking. Still, I prefer not to be dogmatic, because my experience with these drugs may not have been sufficient to justify definite conclusions. I know some physicians who claim good results even in pulmonary hemorrhage.

There is one substance, though, which I feel should not be left unnoticed, as I think it has a very promising future. I refer to gelatin. Though as a cure for aneurism it has not justified expectations, its blood-coagulating properties are well established, and so many reports have appeared as to its usefulness in various forms of hemorrhage, even when given internally, that I decided to give it a trial at the first opportunity. In the one case in which I used it, the effects seemed to me remarkably good; hemorrhages did not recur in three months, though previously the patient had them every two to three weeks; and I shall not hesitate to use it in every case that presents itself. The patient took about four ounces of gelatin, added to soups, broths, etc., in the course of twenty-four hours, for four weeks in succession. No gastric disturbance occurred; on the contrary, the bowels seemed to become more regular than they ever were. Twice or even three times as much gelatin may be given per day.

Concerning the other details of the treat-

ment, little need be said. The room should be large, airy, well ventilated, and of a uniform temperature, 65° to 70° F. Rest, both physical and mental, should be absolute. The patient should not go to the closet to attend to the needs of nature. The food should be scanty, chiefly fluid, highly concentrated, and nutritious. Only small quantities should be taken at a time. Ice cream is both grateful and useful. Food that may be difficult to digest or may generate gas should be withheld absolutely. Constipation, which on account of the morphine administered, is the rule, should be treated. The best thing for this purpose is magnesium sulphate in dram doses, dissolved in not more than an ounce of water, frequently repeated. If the stomach is too irritable, injections of glycerin, or glycerin suppositories (freshly prepared), or enemata of soap and water will have to be resorted to.

There is one point that we must consider before concluding this paper: What are we to do in case of collapse brought on by the excessive loss of blood? This is a condition which we have not infrequently to deal with. Both the loss of blood, which is sometimes so profuse as to be in itself a sufficient factor, and the intense mental shock are the causes of it. If the collapse is moderate, and if, in the physician's opinion, a fatal issue is not to be apprehended, then it should be left alone, for a time at least. As has been pointed out many times before, collapse is Nature's best means to stop a hemorrhage, by favoring coagulation. Under what conditions will blood coagulate so rapidly as when it is practically at a standstill? Still there are conditions where interfere we must. We have, all of us, seen collapse following a pulmonary hemorrhage, where the patient's surface is cold and clammy, the nose pinched, the eyes sunken, etc.,—in short, where death seems imminent. Should we not interfere in such condition and should death supervene, we could justly be held guilty of negligence. The most irrational drug to give in this condition would be digitalis. Not only does it powerfully increase the strength of the heart-beat—an undesirable thing—but it also contracts the arterioles and thus drives the blood to the locus resistentiæ minoris—the gaping artery or aneurism. Alcohol is not very satisfactory. Caffeine is better than digitalis, but it is also objectionable because it excites the brain and prevents sleep, a condition we wish to avoid. In this condition the brain is to be kept as inactive as possible. There are two drugs which are the remedies *par excel-*

*lence* in this condition—camphor and nitroglycerin. I know of no drug which will so quickly and so surely start a heart which has come to a temporary standstill as camphor will. And I may say, *en passant*, that this drug is not sufficiently known and appreciated in this country as a cardiac stimulant. The camphor, of course, is to be administered hypodermically; the best way to give it is dissolved in oil: 1 part of camphor dissolved in 4 parts of warm (sterilized) olive oil or expressed almond oil; of this solution 1 to 2 Cc. (16 to 32 minims) may be injected, and repeated if necessary. The nitroglycerin, preferably in solution, may be placed on the tongue, where it acts almost as rapidly as if injected hypodermically. The nitroglycerin exerts a very beneficial effect: it dilates the cutaneous capillaries and *diminishes* the arterial pressure. As it may be of great service in acute apoplexy—by removing the blood pressure in the cerebral vessels—so it is of service in this condition, by removing the blood pressure in the pulmonary vessels. Strychnine may also be administered hypodermically, but as an adjuvant; it cannot replace the other two drugs in this condition of extreme collapse. Another important and useful measure is the application of numerous hot-water bottles or bags to the lower extremities. In the great majority of cases of the severest form of collapse—say, 90 per cent—these measures will suffice to bring about the desired result. Where they fail, we resort to enteroclysis of large amounts of saline solution (6 parts to 1000, or about 43 grm. to a pint), 4 to 12 pints may be injected and retained. The absorption of the fluid takes place very rapidly. There are some cases so desperate that it may be considered necessary to inject the saline solution subcutaneously or even intravenously; but personally I have had no experience with the latter method. In my hands, the camphor and nitroglycerin, together with hot-water bags and occasionally enteroclysis, have always sufficed to bring the patient out from the deepest collapse.

This paper on the treatment of pulmonary hemorrhages may be summarized as follows:

1. Relieve the patient's intense anxiety by a few kind and encouraging words; unloosen or remove his clothing, and put him in a semi-recumbent position.
2. Inject a quarter to a third of a grain of morphine combined with  $\frac{1}{120}$  to  $\frac{1}{60}$  grain of atropine.
3. You may also give a teaspoonful of

common salt, dry on the tongue, or 20 to 60 minims of aromatic sulphuric acid, diluted with a small quantity of water.

4. Order an ice-bag on the chest.

5. If the above measures fail to check the hemorrhage within a short time—half an hour or so—you must cord the extremities; not too tight, but sufficient to prevent the return of the venous blood.

6. Do not under any circumstances give ergot, or alum, gallic and tannic acids, or any other local astringents. The first has no effect as an hemostatic except indirectly in uterine hemorrhage, and by raising the blood pressure in the pulmonary circuit hinders thrombosis. The local astringents put into the stomach can have no effect on the bleeding vessels in the lung, and are injurious by irritating the stomach, causing nausea and vomiting and inducing constipation.

7. Insist upon absolute mental and physical rest, upon a scanty, nutritious and chiefly fluid diet, and relieve constipation either by epsom salts or by enemata.

8. As a prophylactic against further hemorrhages, make the patient consume large amounts of gelatin, prepared in various forms.

9. Mild degrees of collapse are to be left alone; in severe collapse, administer camphor (hypodermically) and nitroglycerin; also strychnine (do not give digitalis). Besides, several hot-water bottles are to be applied to the lower extremities.

10. It sometimes becomes necessary to resort to enteroclysis of large amounts of saline solution; or the latter may have to be injected subcutaneously or intravenously.

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[Written for MERCK'S ARCHIVES]

## THERAPEUTIC MANAGEMENT OF TYPHOID FEVER

By Aurele Nadeau, St. Joseph De Beauce, Prov. Quebec

### I. METHOD OF INTESTINAL ANTISEPSIS

EXCEPTING perhaps the treatment of pneumonia, few subjects have so engrossed medical attention as the therapeutics of typhoid fever. The disease occurs under nearly all latitudes, in all seasons, among all nations, and, we may say, at all ages. To the greater glory of our art, be it said, this frightful scourge is, day by day, becoming more amenable to our control, and its mortality is everywhere decreasing. Statistics taken in 1866, both in France and Germany, give a percentage of 18 and 20 deaths, while our actual average varies

from 7 per cent. to 8 per cent., inclusive of hospital practice.

Three systems of treatment, in general practice, seem to have superseded all other methods at the present time: (1) Symptom Therapeutics; (2) Hydrotherapy; (3) Intestinal Antisepsis. Partisans of the two latter methods have recourse occasionally to the treatment of some predominant symptom, should such occur; but that practice which seeks the symptoms solely, to the exclusion of all other methods of antisepsis or hydrotherapy, has passed its usefulness and very properly so.

Brand's baths have proven their value, and are increasing in popularity throughout the medical world, especially the hospital world. Their frequent use, either as general or local agents, by enthusiastic and numerous hydrotherapists, has certainly much to do with the gratifying results of late years.

This method still counts some detractors among eminent practitioners on both sides of the Atlantic. I suppose in this, as in many other things, many have not strictly drawn the line between use and abuse, or have become exclusive and forgetful of other adjuvants. It has been lauded as a specific; in reality, it can only take rank as one of the many agents in the therapeutics of a disease that is necessarily prolix.

We now come to the last of the accepted treatments of typhoid fever, intestinal antisepsis, a much more simple method, one within reach of all, equally applicable to the city as to the country invalids, to the laborer as to the hospital patient surrounded by all conveniences. If, to those advantages, we can add that intestinal antisepsis frequently checks the disease, that in all cases it will destroy its malignancy, and thus render superfluous the Brand method, then we have a means of the greatest power. The purpose of this paper is to demonstrate this fact especially.

Before entering in *medias res* I must say that this method also has its opponents, who deny its *raison d'être* on the principle that typhoid fever is primarily an infectious—generalized—disease; and accepting for typical cases certain "aberrant and unusual forms"—as Hare calls them—they generalize from exceptions, saying: Where is the need of intestinal antisepsis, since the bacillus is everywhere? But is the bacillus everywhere? We think not; at least such is not the prevailing theory accepted to-day.

The great majority of authorities call typhoid a progressive intestinal toxemia.

All admit that the small intestine is the receptive organ, the great laboratory where the Eberth bacillus grows and develops its toxins, whence they are distributed to the most remote organs. Consequently, it is all important to destroy the bacillus before its absorption and neutralize its products; or, when too late to prevent this toxemia, at least to stimulate the elimination of the bacillus and that of its toxins by stimulation of all the excretories.

#### CALOMEL

Where will we find a more reliable intestinal antiseptic than the old calomel if administered in the first stages? Long have we known this practice under the name of "German specific," thanks to the marvellous results of Liebermeister, Traube, Ziemssen, and lately of Prof. Seufert (Chicago), not to mention many others; for the treatment is not new. In my personal experience I owe whatever of gratifying—astonishing even—results in my treatment of typhoid, to those 10 grains of calomel, repeated three times at the beginning of the disease; and similar has been the experience of my neighborhood practitioners, who join with me in the hope that the use of mercurous chloride may soon have the widespread recognition it deserves.

In a little over five years I have had under personal observation 322 cases of this disease, with three fatalities only, and these occurred under special conditions that can, in no manner, impugn intestinal antiseptics, two cases dying from intervening puerperal sepsis, the third from previous aortic disease. My list is too long to merit the derisive epithet of "happy runs," and its authenticity can be proven, I am happy to say, at any time. What increases my confidence in the administration of calomel is that I have seen its advantages during certain epidemics of peculiar virulence, especially when compared with other treatments. Before beginning its use, my results were not at all the same, and in my first series of cases, thirty-seven, wherein I used to neglect intestinal antiseptics, I had eight deaths, say 20 per cent. Typhoid fever was then my bugbear, the disease that gave me the most unpleasant surprises.

To convey an idea of the value of calomel I will state a personal experience with typhoid fever, the worst case I ever had:

I had begun six months previously the use of calomel in the treatment of this disease, with twenty-seven recoveries in twenty-seven cases, when I was called to this patient suffering from typhoid in a hemorrhagic form—invariably fatal, say certain authors, amongst others Dieulafoy. When I first saw the pa-

tient, a young man, twenty-two years of age, he had been sick seven days. His family history was extremely bad, his mother, eight brothers and sisters having died of phthisis. His temperature was 105°, accompanied by noisy delirium, with complications of broncho-pneumonia. Besides this, he had several attacks of nose-bleed and severe hemoptysis, followed shortly afterwards by hemorrhage of the bowels that left him in a state of collapse. To complete the scene, there were those ataxo-adyamic symptoms one invariably meets with in severe hemorrhagic forms. It was certainly the worst form of the disease in the very worst conditions.

Naturally my prognosis was unfavorable, and an old physician of the same town had said: "Were he to get better I would give up all faith in medicine, since all authorities say he should die;" in fact, he was dead in every one's judgment. Well, the battle was long and fierce, I will not deny. His fever lasted forty-four days, but regressed suddenly and his convalescence progressed rapidly, notwithstanding his evident predisposition to tuberculosis. This man is today in perfect health, the only one of his family, and it is now four years since his attack.

Since then my experience has been vast and varied as to the intensity of the virulence, but always the same as to good results. I have seen physicians, experienced men, lose 15 per cent. of their patients under the same conditions, the same epidemic features, but under the old method of symptom therapeutics. My cases are not drawn from the best *milieux*; some families, even, I have seen completely stricken down without help, sufficient nourishment, in want of fuel during our cruel winters, without mentioning the lack of ventilation. Those were not the most hygienic test mediums. In those cases the malady lasted longer, but never were there serious complications when the calomel had been administered according to rule at the onset of the trouble.

Some patients, children especially, after the three preliminary doses of calomel, would refuse all further medication; and, though in these cases convalescence was seemingly delayed, no complications arose. In fact, it became so that I have said to myself: "It's only typhoid, no need to worry, since the patient has been vaccinated against complications." That has been my experience. But I do not claim that calomel is a specific. It will not cure a great many abnormal forms and localizations, and especially that variety of cases wherein the bacteria are scattered from the onset throughout the entire circulation, and where the patient is "literally siderated," so to say. Calomel will also fail in several cases of pregnancy terminating in abortion, also in normal puerperium when nature has not sufficiently recovered before falling victim to typhoid infection. "Pregnancy," says Waugh, "is a dangerous customer in ty-



phoid fever." Moreover, casualties should always be feared when the patient has been previously affected with organic or visceral diseases. As I do not believe in the specific value of calomel, I do not neglect any other means that seem to be indicated. But I emphatically believe that the use of calomel at the onset of typhoid should be generally insisted upon, and that it will not interfere with any other prescribed treatment or method. On the contrary, it will help their curative powers, even should it do the larger part. Theories can be built, theories have been built against the use of calomel, but experience and facts are evidence that one cannot refuse.

To come to details, I follow closely the German method of administration: Ten grains once a day for the first three days; rarely do I administer a fourth dose. Calomel is best given in gelatin capsules or wafers, at evening time, and whether it be accidental or not, I have not observed any stomatitis since adopting this mode of prescribing. Nausea rarely occurs, sleep or even mild delirium favoring its tranquil passage; as for the diarrhea, it is preferable to vomiting. The following morning, six or seven hours after the dose of calomel, I administer invariably a saline laxative (Seidlitz, Rochelle, or Glauber salts) that evacuates whatever remains of the mercury and thus prevents unnecessary irritation and absorption.

Should the stomach be very irritable, I administer the calomel according to Dr. Aulde's method for the first day. The patient lies on the right side, the head low, and  $\frac{1}{20}$  grain is given every half hour until six to ten or more doses have been given. This method, besides insuring a sedative action on the stomach and the liver, and checking the vomiting, exhibits the full purgative effect as well as would a ten-grain dose. The second and third days I give ten grains every day. The change following this method is so marked that the friends of the patient, and the patient himself, appreciate it at once. These three doses destroy the evil process in the intestinal reactions. The disease continues only from the bacteria already absorbed in the blood and tissues; and these receiving no reinforcement from the bowel are more easily defeated by the normal forces of the organism. The ailment is no longer "typhoid" (Greek, stupor), except in name. The general malaise and the sinking sensation give place to a feeling of comfort and well-being. The drowsiness, stupor and apathetic stare all disappear. The patient is wide awake, in-

telligent, and in the evening his sleep is calm, long, and peaceful, without wanderings, mutterings or starts (*subsultus tendinum*). He feels refreshed in the mornings, and takes interest in his surroundings.

I would draw special attention to the absence of apathy, so constantly met with in typhoid that it has become a characteristic, one might say. The mouth is no longer parched, but becomes and remains moist without subsequent trace of crevice or ulceration. Neither is there that ringing in the ears so frequent at the onset and too often the prelude to otitis media and deafness. No trembling, no delirium continues after the initial doses of calomel. In one case only did the latter persist, that of hemorrhagic typhoid mentioned before, and once delirium set in for two days at the end of the disease, during a slight exacerbation. Those fearful complications, myocarditis, lobar pneumonia, abscess, jaundice, nephritis, profuse diarrhea, tympanites and perforation I never met with in my 300 cases.

The stools become less frequent and less copious, assuming more consistency and losing their fetid odor. And last, though far from least, the fever diminishes one or two degrees and affords proportionate comfort to the patient. With very few exceptions the temperature remains below  $103^{\circ}$  F.—by the way, *the very point above which cold baths are insisted upon*. I admit that the effect of this treatment on the fever symptom, though well marked, is not so pronounced as one might expect from its striking improvement of the other group of symptoms. There can be nothing astonishing in this when all authors agree that the fever is singularly rebellious even to the plunge itself (Hare, 1899) in the early stages of typhoid. Enteric fever then becomes a slight indisposition, lasting two or three weeks, without accidents, without serious complications. It is a relief for the physician, who no longer follows the expectant therapy of symptoms.

I say more than this—that this treatment can check ten per cent. at least of typhoid cases if administered in time. In one case the disease, with all its characteristic symptoms, was stopped on the fifth day. Its abortion is always practicable before the stage of infiltration, while the trouble is solely functional. Chomel and Louis have mentioned cases where this infiltration occurred as late as the eighth day; and Jacoud even asserted that "the intestinal alteration itself may possibly be limited to simple glandular engorgement (infiltration) and that resorption might re-

place necrosis and consecutive elimination." Moreover, this infiltration or engorgement—as often happens with children—may form soft patches only without ulceration, leading to those brief and mild attacks so often witnessed with the use of calomel.

During epidemics, or when an inmate of a house is sick, precautions can be taken in the form of calomel administration immediately upon the sensation of headache, malaise, or nose-bleed. Rarely will we be deceived in our expectations when calomel is given within the twenty-four hours of the first stage.

#### WHAT IS THE "MODUS OPERANDI" OF CALOMEL?

Our reasons for believing in the efficacy of this medicine are many. Let us mention some of them.

1. In the first place, calomel, like most mercurial salts, is a germ destroyer, a local antiseptic of the first order. Certain authors, in their exclusive partisanship of Brand's method, have sneered at the mention of intestinal antiseptics—as if the merits of one treatment imposed the necessity of condemning all other scientific means at our disposal! Absolute intestinal asepsis is a Utopia, perhaps; still, relative or partial asepsis of the bowel is a glorious achievement of science. And because complete sterilization is impossible we must not infer from this that it is indispensable. As Dr. Waugh justly said, "You don't have to kill every man in the enemy's army to win the battle."

The importance of intestinal antiseptics has been more and more demonstrated with each succeeding year. The negative results obtained by typhoid serotherapy have at least clearly shown the admixture of the bacterium coli in the etiology and complications of the disease. It is even thought by many that enteric fever is as much due to an increased virulency of the common coli-bacillus as to the titular Eberth germ. All the more reason, then, why intestinal antiseptics should be highly considered.

2. As antiseptics is impracticable on a loaded bowel, calomel as a purgative, by producing copious liquid stools, full of bile products, would still serve as a scavenger of the intestinal tract, clearing it from the infectious germs therein domiciled. Purgation is mechanical antiseptics, a very sure method.

3. Bile, we know, is the physiological bowel-antiseptic, and the stimulant of its healthy peristalsis. Through it and through it mainly all digestive processes are helped

in their physiological work, and abnormal fermentation is prevented. Great discussions have been raised as to the action of calomel on the liver. Some say it is a direct cholagogue, a stimulant to hepatic secretion; others, that it acts indirectly by promoting the excretion of the bile. Whatever hypothesis is true, every one agrees that calomel is a cholagogue both powerful and decisive. And it is natural to conclude that an agent which increases the bile helps in the elimination of whatever toxins the liver may contain. Perhaps, after all, the liver is most at fault, since with the bowel, and next to it, it shares the principal receptivity for pathological germs. Does it not become the headquarters, through the numerous ramifications of the vena portæ, of all that is absorbed in the intestinal glands? Such effects, which might not occur during the height of the disease, seem to be easily obtainable at the onset of the trouble, and would explain the mighty value of calomel in checking the disease.

4. Absorbed in small quantities, as it must be at the beginning of the treatment, calomel increases leucocytosis, the reserve force of nature in time of trouble. More details on this subject will be submitted hereafter.

5. Calomel is an unquestioned diuretic, according to Siler and Jendrassick. This is especially notable when a saline is administered as an adjuvant.

An objection is made that calomel by its absorption causes accidents of mercurialism. The little accidents are so rare as to raise suspicion of idiosyncrasy. As we have already said, a saline laxative helps to banish from the bowel all traces of mercury. Even should stomatitis be the general rule, the inconvenience would be well redeemed through the many advantages. If a treatment saves lives, what matters some light, unpleasant after-effect? But we all know that calomel, in purgative doses, acts quickly; its slight solubility, besides, renders nearly impossible any considerable absorption. And this absorption—supposing it exists—is an argument in our favor.

#### NAPHTOL AND BENZONAPHTOL

Nothing, however good, should be used after it has outlived its usefulness. Calomel, so important in the initial stage, may become harmful later on, as an irritant at a period when purgatives could prove dangerous to the ulcerated follicles and Peyer's glands. Even in small doses, calomel is contraindicated after the first week.

During over two years I gave as intestinal antiseptics nothing but the three doses

of calomel, and the results were about the same. But it is more prudent, as a safeguard against abdominal complications, to continue the good work by the use of a safe intestinal antiseptic, such as naphthol, which proves very efficient. It is probably a still better deodorizer than calomel. Also, its use undoubtedly shortens the pyrexial stage. Two negative virtues commend this drug to our attention: the nearly total lack of solubility and toxicity. It can thus arrive unaltered at the ileum, in doses suited to the demand. But after calomel administration very little naphthol will be required. A favorite formula with me is the following:

Beta-Naphthol (resublimed) ..... 3 iv  
 Bismuth Salicylate ..... 3 ii  
 Mix and divide into thirty wafers, three to twelve a day.

Alpha-naphthol, still less toxic, can be substituted, if desired, in the present formula. Whenever the bowel is the seat of fermentative process there is a formation of sulphuretted hydrogen, coloring the stools black after combination with the bismuth. In a perfectly clean bowel no  $H_2S$  exists, and the stools are characteristically colored green by the naphthol. This drug may be continued until convalescence. Instead of thirty we can divide the mixture so as to make sixty wafers, allowing in this way the easy administration of fractional doses. Also, bismuth salicylate can be replaced by another bismuth preparation. Brouardel, among others, has noticed that salicylic acid in process of elimination has a disastrous effect on the kidneys, and consequently he rejects all preparations that give free salicylic acid, such as the salicylates, betol, eucalyptol, and salol. Moreover, Naphthol-B, in spite of its popularity, irritates the kidney, and before long probably will be replaced by its compound, benzonaphthol, which, while as much insoluble as the naphthols, is less toxic. It is absolutely tasteless and thus increases in value as a child's medicine. Being unirritating to the mucous membranes, it is easily tolerated by the large class of hyperchlorhydric patients where naphthols cannot be given. Through its benzoic acid it is a diuretic and urine antiseptic. It is given in doses of 45 to 75 grains daily, alone or mixed with powdered vegetable charcoal.

These are the two means of intestinal antiseptics that have yielded us good results. They form the basis of our treatment. No need to add that two necessary conditions must be observed before obtaining intestinal antiseptics. In the first place, all care to avoid outside infection by the nourishment,

and only to prescribe fresh or well-preserved food. Secondly, avoid accumulation of feces in the intestine—"no antiseptics possible on a loaded bowel!" In case of constipation a laxative may be administered each morning; this practice, we shall see, can produce but the best results. Many prefer glycerin suppositories and rectal enemas of naphthol, chloral, or boracic acid solutions. This can, at the same time, by modifying the temperature of the water, serve as a local application of hydrotherapy.

Whatever great disparity of opinion may exist among authors *re* intestinal antiseptics, clinical proofs are more convincing. On one hand, such an authority as Simon Baruch has not hesitated in calling intestinal antiseptics a "fad;" on the other, equilibrium seems re-established by the following words of the illustrious Prof. Jacobi before the New York State Medical Society (Feb., 1899):

"Bacteriologists often make the mistake of denying the efficiency of medicinal doses of so-called intestinal antiseptics simply because the bacteria were not killed by these agents; they forget that exceedingly small quantities of these substances might paralyze the bacteria and prevent them from forming toxins, even though powerless to kill these organisms."

## II. ADJUVANTS OF THE INTESTINAL METHOD

Having discussed our method of treating typhoid by intestinal antiseptics, without claiming for it exclusive power, we come naturally to our second division, which we divide into three classes, according to their importance and their popularity among the profession at large.

### A.—PARTIAL HYDROTHERAPY

We have said in our preceding remarks that, following the three initial doses of calomel, fever never rises to such a degree as to indicate plainly the necessity for sudden lowering of the body temperature by means of general baths. Certain practitioners have made unto themselves a rule not to use systemic hydrotherapy, even should the temperature *remain* at or above the  $103^{\circ}$  F. point. Others claim that the temperature of  $103^{\circ}$  or over needs more certain medication.

Among others, Hare strongly protests against the adoption of general bathing as a "routine treatment" in all cases. "Hydrotherapy has always its indication," says he, "but not so with the cold plunge," and as a ratio he gives two in sixty-four cases observed. Prof. Baruch likewise shows that

general baths demand so much attention, and the omission of the least of its minutiae may be brimful of such harm that in private practice, especially in country practice, the classical hydrotherapeutic method should be reserved for exceptional circumstances. And from day to day it has become of more marked and general acceptance that hydrotherapy as a medicinal agent finds its principal incentive not in the lowering of the temperature, but in its tonic action, as invigorator and prophylactic of the typhoid or adynamic state. But, outside of general baths, water has an extended and varied usefulness in typhoid; as, for instance, its well-known curative effects in the form of ice-packs to the head in the headache of early stages, and on certain forms of noisy delirium; also, when applied to the abdomen when swelling or marked tenderness exists.

Prof. Mays, of Philadelphia, has obtained magnificent results from the local application of ice to the chest in pneumonia. This form of treatment still more formally recommends itself in the consecutive pneumonia of typhoid, or when there is from the start co-existence of these two diseases. Thompson, of New York, and Hare insist strongly on the use of ice rubbing and cold frictions followed by massage, not as an antipyretic chiefly, but as a general nerve tonic.

Ice enemas, simple or medicated, assist intestinal antiseptics greatly, prevent constipation and certain abdominal complications, and form one of the most efficient remedies in bilious conditions, or even in existing jaundice. These local hydrotherapeutics are of easy appliance everywhere; rarely can they be contraindicated, and they necessarily help towards the successful result.

#### B.—ANTIPYRETICS

Through the use of calomel there is, as a rule, no more necessity for this medication than for the plunge bath. Still, a temperature of 101° and 102° F. may engender a very uncomfortable malaise and, in this case, a well-selected antipyretic will promote ease during the waking hours and perfect restfulness at night.

As a rule, antipyrine, acetanilid, phenacetin and similar products are proscribed. All antipyretic by-products of the coal-tar series offer, indeed, very serious contraindication in continued fevers. Their use has been discountenanced by most modern authors and by some strongly condemned. They act as heart depressors, diminishing cellular activity, obstructing oxidation and urinary depuration. They "block the kid-

ney" and lead to the retention of organic wastes. But there is no rule so rigid as to allow of no exceptions, and, as we shall see, antipyretics sometimes find their useful indication. If their continued exhibition is a fault, their interrupted administration when the fever reaches its maximum will afford relief to pains and other distressing symptoms.

These reservations apply but very little to *sodium salicylate*. It is the supreme antipyretic in enteric fever, according to Robin (Paris). It possesses all the sedative, antipyretic, and analgesic powers of the coal-tar derivatives, without any of their faults. Moreover, it is a cholagogue of good value, and far from blocking the kidney it, on the contrary, diminishes its task through profuse diaphoresis (the skin acting vicariously for the kidney) and also acts as a powerful diuretic in the feverish. In fact, through its union with uric acid and other secondary excretory products, it forms soluble compounds more easily eliminated. In typhoid one must remember elimination is the question of paramount importance. In rheumatic, gouty and obese subjects—in fact, in all uric acid diathesis—it can hardly be replaced. But unless myalgia or neuralgia exist the administration of salicylates should be limited to one or two doses daily, since they present this objectionable peculiarity—their reduction into salicylic acid, which may irritate the tender and over-worked kidney.

Among the full-blooded, and in true sthenic typhoid, I have seen surprising results follow the administration of *aconitine* and *digitalin*, used conjointly, especially in the first week or ten days. I prescribe granules containing:

Aconitine (crystallized)... $\frac{1}{10}$  milligram ( $\frac{1}{1000}$  grn.)  
Digitalin (crystallized)... $\frac{1}{4}$  milligram ( $\frac{1}{1000}$  grn.)

One granule of each kind to be used every two or three hours, according to temperature and effect obtained. The fever is reduced, perspiration promoted, and the pulse becomes slower, steadier, and less bounding. Headache, always so intense in these forms, disappears immediately. In such doses, and given with digitalin, aconitine is a safe drug, providing always that only a reliable preparation is used, and that care is taken in the dosage. Of course, one must beware of individual susceptibility, readily perceived by the prickling sensation felt in the tongue and the skin. Naturally, also, this treatment should not be long continued.

*Quinine*, largely used as a febrifuge by Liebermeister, is falling more and more into disuse. Bartholow sees in it no advantages,

and considers it even dangerous. In doses large enough to react on the fever it is an irritant of the digestive tract, and a heart depressor. Its power, if any, lies in small doses, as a tonic and antiseptic. Nevertheless, it has great value in that form of typhoid characterized by intermittent feverishness, as is often the case with subjects who, previous to typhoid, have suffered with malaria. The well-recognized [?] eccholic powers of quinine will necessarily forbid it among pregnant women.

#### C.—TONIC-STIMULANTS

Apart from strychnine, which nowadays forms the basis of all stimulation, preference must be given here to those valuable tonics which are at the same time reserve forces, "*aliments d'épargne*," as the French call them. If it is true that great attention must be given to the elimination of waste products, it is all important, on the other hand, to prevent, in the measure of possibilities, tissue disintegration.

*Alcohol*, at once a stimulant, a tonic, a reserve food, a eupeptic, and a sedative (among the abstinent), must perforce occupy an important rank in the therapeutics of a continued fever accompanied generally by adynamia. Here, as elsewhere, there is no place for routine work. It will be well to imitate the wise reserve of Sir W. Jenner, and to study each patient's susceptibilities. The administration of alcoholic stimulants can never be too cautious in slight attacks, in childhood and adolescence. In those cases where it has not the desired effect upon the symptoms, its use should be abandoned. As a fact, however, the great majority of cases require the help of alcohol. Its need is urgent among the aged, the alcoholized, and in pulmonary complications. The three great indications for its use are adynamia (so diversely expressed), weakness of heart-beat, and flabbiness of the pulse. Other guides of less importance are dryness of the tongue, cold extremities, spontaneous and profuse perspiration, and scarcity of urine, with diminution of urea and increase of albumen. Noisy delirium does not debar its use, providing it is given between paroxysms.

I have used alcohol (95 per cent.), brandy, whiskey, in fact any preparation whereof I could know the percentage proof, always diluted. I begin with simple aqueous solutions, then, should the patient rebel, the preparation is changed for some equally strong alcoholic beverage, then disguised by syrups, aromatics, etc. Too much attention cannot be bestowed upon these little subterfuges, which permit of our using

alcohol throughout its time of usefulness. If we begin the administration of alcohol in the second week, slight doses are all-sufficient for the need and at the same time the stomach is spared. I generally order a teaspoonful every hour during the waking hours, and increase the quantity up to a tablespoonful when necessary. During the convalescent stage, alcohol may be administered in larger quantities at a time and at longer intervals. It is preferably given after meals, so as not to increase the already voracious appetite which causes the patient to devour his food in haste without sufficient mastication—a great cause of digestive disturbance and relapses.

*Caffeine* is one of our greatest heart tonics and an undoubted reserve agent, lessening tissue-change and waste. For this cause Bartholow fully recommended it in phthisis. It is best administered in small doses, often repeated, one grain every hour, with alcohol in most cases. After a few days, it should not be given at night, as it causes insomnia. Strange to say, it does not act thus in the beginning, probably because it regulates the intracranial circulation more or less congested in the first stages of typhoid. The use of caffeine must be in each case regulated by the character of the pulse and the urologic signs. The pure alkaloid (Merck's) must be preferred to its salts, especially to the citrate, a very uncertain and not quite definite compound. The alkaloid has a better effect in less than half the dose.

*Strychnine arsenate* is a happy medium of conveying to the sick the benefits of both strychnine and arsenic. Though comparatively a new comer in therapeutics, it promises a long career. Some enthusiasts have already called it "the specific against death." In fact, no remedy approaches strychnine in its direct, immediate, and simple influence as a stimulant and regulator of the nerve functions. It seems to carry its benevolent action in preference to the heart and respiratory center. Such is the reason which makes it "the most permanent as well as the most powerful of tonic-stimulants," according to Prof. J. H. Jackson, of Boston. The arsenate may be administered at the same time as alcohol, in doses of  $\frac{1}{124}$  grm. every hour, increasing if need be.

*Nuclein*—Full light has not been thrown on this subject, which is still *sub judice*. The theory is attractive and will bring forth ere long many and interesting observations, I doubt not. As a stimulant to the production of phagocytosis, nuclein should prove a powerful ally in the long battle against the typhoid virus. But its all-important

place should be as an abortive, a helpmate to the leucocytes in their struggle against the bacillar invasion. Dr. Aulde claims success in the checking of typhoid through the use of nuclein, mercury biniodide, and copper arsenite—having used this method for nearly ten years. He uses 10 to 20 minims of a solution of his own, hypodermatically, once or twice in twenty-four hours.

(To be continued)

## THE TREATMENT OF INFLUENZA IN CHILDREN<sup>1</sup>

By A. Jacobi, M.D., LL.D., New York

ACCORDING to the eminent author of the paper with the above title, there is no other disease which is both so contagious and infectious as influenza is. The most perfect isolation is therefore imperative, wherever feasible. Expecterated mucus and the products of sneezing should, if possible, be caught and destroyed or disinfected; tools, toys, towels, handkerchiefs and linen should be washed and disinfected as in other contagious maladies. Both the sick and the well children should use disinfectant mouth washes, for which purpose water slightly acidulated with hydrochloric acid answers best. The drinking water should also be acidulated with the same acid, and may have the same favorable result that is obtained in Asiatic cholera. The nose should also be irrigated as a matter of course, both in the well and in the sick, the same as it is done in diphtheria. In this way the mucus, which catches the bacilli as in a net, is removed and the mucous membrane is kept in a healthy condition; the more normal the condition of the mucous membrane the greater is the protection against the invasion of the pathogenic bacilli. Among medicinal preventatives cod-liver oil, calcium sulphide, and quinine have been proposed, but results obtained by various observers are contradictory.

So much for prophylactic treatment. Coming to treatment of the established disease, we are at once confronted with the fact that there is no specific against influenza, and we therefore must consider the rational, hygienic, symptomatic and sustaining treatment. As the bowels appear to be the principal point of attack in young children, a purgative dose of calomel should be given at the start in order to clear the field of microbic and toxic products. The little patient should be kept in bed; the temperature of the room should be 70° F., or a little higher in the beginning; the diet, especially

at first, should be scanty and fluid—milk, cereals, water, lemonade and broths. Later in the disease eggs may be permitted, and in a very few cases alcohol may be indicated; in influenza it is rather a slow convalescence than the disease itself that requires alcohol. In this respect it differs from other infectious diseases, especially typhoid and diphtheria; in the latter disease, for instance, alcohol should be given freely from the beginning.

Two measures indicated in so many diseases are distinctly contraindicated in influenza—those are cold water and opium. Opium rather increases than soothes the irritating cough; the bronchitis of influenza is aggravated by it, and it is injurious in every case of profuse perspiration or weak heart. A warm bath is often beneficial where there is much muscular pain and restlessness. Regarding quinine, diametrically opposite opinions prevail; while many eminent observers regard it as the remedy *par excellence* in influenza, other clinicians equally eminent have seen no benefit from its use. In cases of severe vomiting, rectal alimentation must be resorted to. Peptonized milk, eggs, and broths are absorbed in part; starch is converted into dextrin in the colon and makes the enema more nutritious, but even water alone adds to the circulating fluid. Ice, either internally or externally, may sometimes relieve the vomiting, but the best remedy is morphine. It is not necessary to put the morphine into the stomach. Absorption takes place more readily from the mouth or throat; to a child two to four years old administer a tablet of  $\frac{1}{100}$  grn., or put  $\frac{1}{2}$  to 1 drop of Magendie's solution on the tongue, undiluted.

What are we to do for the high temperature? Just as it is injudicious to consider the temperature the most important thing in the disease—trying by all means to depress it, and thinking that having reduced the temperature we have cured the disease—so it is unwise to allow high, persistent temperatures to run unrelieved and unabated, consoling oneself with the thought that high temperature is not the cause but the result of the disease. It is true, it is the result of the disease, but it in its turn produces very deleterious effects; it increases the rapidity of the respiration and of the heart's action, accelerates waste, and the waste products act in their turn as poisons to the system. When we further remember that most of our antipyretics are at the same time nervines, analgesics, and diaphoretics, their judicious indication will become plainly manifest. Acetanilid, the

<sup>1</sup> Med. News, Dec. 15, 1900.



author says, should never be used, under any circumstances; not only has it a sedative or rather paralyzing effect on the central nervous system, but it destroys the blood and causes anemia by changing hematin into methemoglobin; that is what gives rise to cyanosis, which is much more often observed than after any of the other modern analgesics and antipyretics. The effects of antipyrine—which has also the advantage of being soluble in water—are generally good, though it has many undesirable by-effects. These disagreeable by-effects show themselves in the gastrointestinal, nervous and circulatory systems, in the skin and in the mucous membranes. Phenacetin is much milder in its action; to infants and children it should be given in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grn. Salipyrine has the advantage over antipyrine of not causing perspiration; it should be given in double the doses of antipyrine. Salophen is preferred by some to salicylic acid and sodium salicylate, especially in the nervous form of influenza. To adults it is given in doses of 15 to 90 grn. [*pro die?*]; to children in doses of 5 to 8 grn.

Another important element that demands treatment in influenza is the exhaustion, because there is hardly a disease which has as great a tendency to cause exhaustion and numerous other nervous symptoms, from languor to heart failure, as influenza. If there is the slightest indication of such a danger, a heart stimulant should always be added to any antipyretic we may give. Alcoholic preparations are not advisable, but caffeine preparations are indicated; the caffeine-sodium salicylate and caffeine-sodium benzoate are the best, as they are very soluble, rapidly absorbed, and may be administered subcutaneously. The value of strychnine is too well known to need extended mention. Whether and to what extent to administer stimulants will depend upon the general condition of the patient, his former health and his resisting power. In most cases sparteine sulphate— $\frac{1}{8}$  grain *pro die* to a child two years old—will have a favorable effect. The caffeine salts may be given in doses of 3 to 10 grn. per day; should the caffeine appear to excite the brain, it should be replaced by camphor ( $1\frac{1}{2}$  to 6 grn. during the day). Where strong stimulation is required, the above drugs should be given in larger doses or should be administered subcutaneously. For the hypodermic administration of camphor, it should be dissolved in four parts of sterilized expressed oil of almond. Another excellent stimulant, useful in the gravest cases attended with heart failure

and collapse, is Siberian musk, an important drug sadly neglected by American physicians. The dose for a child of two years of the 10-per-cent. tincture [the U. S. P. tincture is only 5 per cent. strong, and consequently the doses may be double those recommended by the author.—Ed.] should be 5 to 10 minims every half hour, until six or twelve doses have been taken. The author says that this drug, musk, together with large hot enemata, has helped him to carry through many a hopeless case, and he recommends it in all dangerous conditions of nerve exhaustion, from any cause.

[We are fully conversant with the remarkable stimulating properties of musk; in most European countries it is considered the sheet anchor in the last stages of long exhausting diseases. Used in heroic doses in cases of impending dissolution, it has apparently saved many a life which would otherwise have been irretrievably lost. But, unfortunately, it is next to impossible to obtain here a genuine effective tincture of musk. In one personal experience we sent to over a dozen drug stores and were unable to obtain it; the druggists honestly stated that they did not keep it in stock. One druggist sent the essence of musk—the perfume. On another occasion the tincture of musk was obtained, but it produced no effect whatsoever. The druggist frankly admitted that he had had that tincture on his shelf for at least sixteen years! Then, again, on account of its very high price, Siberian musk is only too often adulterated.—EDITOR.]

In conclusion, the author relates Goldschmidt's experience. During an epidemic of influenza which visited Madeira, all those who had recently been vaccinated, and successfully—112 in all—(on account of a smallpox scare) remained free from the disease; of the ninety-eight who were vaccinated unsuccessfully, only fifteen were taken sick. Goldschmidt concludes that successful vaccination is a preventive of influenza.

## TREATMENT OF INFLUENZA IN ADULTS<sup>1</sup>

By Reynold W. Wilcox, M.D., LL.D.

ACCORDING to Dr. Wilcox, influenza generally manifests itself in one of three forms, namely, that of (1) the respiratory system, (2) of the gastro-intestinal system, and (3) of the neuro-muscular system. The respiratory tract is the most frequent seat of the affection, and the sequelæ in respiratory influenza are also more frequent than

<sup>1</sup> *Med. News*, LXXVII, No. 24.

in the other forms. Of diagnostic importance in this form is the fact that the prostration, the fever, and the systemic disturbance are out of all proportion to the lung involvement as elicited by physical signs. We therefore see that this is a systemic infectious disease, in which supporting treatment is demanded from the beginning to the end. Attempts at reducing fever will therefore do the patient more harm than good. The more we know about fever as a symptom, the less we are disturbed either by its height or by its duration. If temperature must, in the opinion of the physician, be reduced, it is done more effectively by the ice-water coil over the heart than by any other method. So also with the symptom, pain; while morphine would relieve it, the drug interferes with the nutrition and dams up the secretions to such an extent that its use must be condemned. Leaving the negative treatment for the positive, we find ammonium carbonate of great value. Given in doses of 5 to 10 grains in 2 ounces of milk, and repeated as often as indicated, it will relieve unnecessary coughing, will remove a great deal of oppression from the chest, and will strengthen the heart. Its only disadvantage is the liability to disturb the stomach after five or six days. The irritation in the nose and throat is best relieved by a solution of eucalyptol (10 minims), or menthol (5 grn.) in alcohol or similar liquid hydrocarbon (1 oz.). If the ammonium carbonate is not well borne, tincture of nuxvomica in full doses or strychnine should be administered. The strychnine exerts a favorable action not only on the heart muscle and respiratory center, but also on the spinal cord and the general nutrition. In regard to alcohol, the patient's previous habits and the urgency of the symptoms must be the decisive factors, but as a rule the patient is better off without it. The temperature of the patient's room must of course be equable, and the diet should be fluid and as nutritious as possible. When pneumonia develops, nitroglycerin should be administered and the doses of strychnine should be increased and kept up until the patient is convalescent. For a slowly resolving pneumonia, and for a tardy convalescence from bronchitis, excellent results are obtained from creosote carbonate, given in sherry, in doses of 30 to 40 drops, several times a day. As is seen, this scheme of treatment excludes all the depressant expectorants, the depressant coal-tar products, and other physical means, such as poultices and cold and hot water applications and baths. The principal thing is supporting

the patient and eliminating the morbid products.

In the gastro-intestinal form of influenza the bowels should at first be opened by calomel, given in small, frequently repeated doses. Next, the organic bismuth salts, such as the subgallate, naphtholate, etc., are very useful. High intestinal irrigations aid in eliminating the toxins not only by the bowels, but also by the kidneys. Frequently rectal alimentation must be resorted to. Zoolak and good beef extracts, in small doses, are often acceptable to the stomach.

In the neuro-muscular type the pain in the bones and muscles is so severe that relief is imperatively demanded. Quinine has been lauded by many, but the author thinks that to push it to very high doses is hardly justifiable. Euquinine is somewhat more efficient, but is also liable to cause tinnitus if given in large doses. While the aniline derivatives are as a whole objectionable, nevertheless if administered guardedly, in rather small doses and combined with caffeine to counteract the heart-depressant effect, they will relieve a large part of suffering in this form of influenza without incurring dangerous depression in the circulatory and respiratory symptoms. The analgesics of this series mentioned by the author are acetanilid, phenacetin, salicylic acid, methyl salicylate, kryophin, and salipyrine, which is a combination of salicylic acid and antipyrine. The author says that in spite of the favorable reports on salipyrine, he has seen depression from its use, and it should always be administered in conjunction with caffeine.

Another remedy, which frequently though not always gives marked relief from the headache or backache of influenza, is gelsemium. The success when obtained is so brilliant that the drug is worthy of a trial in every case. It must be given until slight ptosis appears, which shows that the limits of its physiological activity have been reached. If the muscular pains are limited to the back they can be relieved by a hot poultice of equal parts of kaolin and glycerin, with 10 per cent. of boric acid (with some agreeable volatile oil to give it a pleasant odor). If diarrhea is present in a case of influenza, it should not be checked; it is beneficial in carrying away the toxins. Warm baths relieve muscular pains, and when accompanied with friction add materially to the comfort of the patient. For urinary insufficiency, the best remedy is continuous enteroclysis with decinormal salt solution at a temperature of 110° F. It not only aids renal elimination, but is a cardiac stimulant of great importance.

## REMEDIES INTRODUCED IN 1900

As has been our custom every January, we herewith present a list of the new remedies which have been introduced to the medical profession during the past year. The compilation of such a list is attended with greater labor than the reader may suppose, and we believe the ARCHIVES is the only medical journal in which such a list can be found.

ACETOPHENONACETYLPARAMIDOPHENOL ETHER:—See Hypusacetin.

ACETOPYRINE:—Compound of acetylsalicylic acid and antipyrine. Antipyretic. Dose: 8 grn. six times daily.

ACETYL-LEUCOMETHYLENE BLUE:—Colorless form of methylene blue for internal use.

ACID OXYNAPHTYL-ORTHO-OXYTOLUYLIC:—See Epicarin.

ACID PROPIONYSALICYLIC:—Product of the action of anhydrous propionic acid on salicylic acid. Anti-rheumatic and antipodagric.

AIROGEN:—Ainol.

ANIODOL:—"Glycerin solution of trioxymethylene." Antiseptic in 1:5000 to 1:2000 solution.

ANTIPYRINE ACETYSALICYLATE:—See Acetopyrine.

APALLAGIN:—Mercury salt of tetraiodophenolph-talein (nosophen). Antiseptic.

ARATACIO:—*Sagotia racemosa*, a South American Euphorbiaceae. Tonic and aphrodisiac.

ARGYRINE:—Alkaloid from horse chestnut. Used in hemorrhoids. Dose: ½ grn. in pill.

ATRAILIN:—Preparation of suprarenal capsule. Used in eye diseases.

BENZOIC-ACID BENZYL ESTER:—See Peruscabin.

BISMUTH-NAPHTALIN BENZOATE:—See Intestin.

BISMUTH OXYIODOTANNATE:—See Ibit.

BLEPHARIS CAPENSIS:—A South African Acanthaceae. Used in blood poisoning from anthrax and snake bites. Dose: 3–4 fl. oz. of a 1:100 decoction.

BONDUCIN:—Bitter principle from Bonduc seeds. Febrifuge. Dose: 1 to 3 grn.

BONDUC SEED:—Seeds of *Guilandina Bonducella*. Febrifuge and tonic in malaria. Dose: 15 grn.

BROMOCOLL:—Condensation product of bromine, tannin, and gelatin. Hypnotic, sedative.

BRUCEA SUMATRANA:—See Ko-Sam.

CADMIUM SULPHOPHENYLATE:— $(C_6H_5.HSO_4)_2Cd + BaSO_4$ . Antiseptic, astringent.

CAFERANA:—See *Tachia Guayanensis*.

CALCIUM EOSOLATE:— $Ca_2(C_6H_5S_2O_{11})_2$ . Sulpho salt of aliphatic creosote esters. Used in diabetes, phthisis, etc. Dose: 4–10 grn. 3 or 4 times daily.

CALCIUM PEROXIDE:— $CaO_2 + 4H_2O$ . Antiseptic. Used in acid dyspepsia and summer diarrhea. Dose (children): 3 to 10 grn.

CARNIGEN:—Dietetic albumose.

CASSIA OCCIDENTALIS:—See Kinkélibah.

CEPHALIN:—Mixture of caffeine, sodium salicylate, antipyrine, and roasted coffee. Headache remedy. Dose: 4 grn.

CHINOTROPIN:—Urotropin quinate.

CHIROL:—Solution of various resins, etc. Protective in surgical operations.

CHLORAL-ORTHOFORM:—Hypnotic.

CHLORAL-ORTHOFORM, "NEW":—Hypnotic.

CHLOROSONINE:—Compound of chloral and hydroxylamine. Hypnotic.

CONIZA FILAGINOIDES:—See Simonillo.

CORBA OIL:—See Sphagnol.

CREOSIN:—Compound of creosote, iodine, calcium hypophosphite, and balsam Peru, intended for use like creosote.

CRURIN:—Quinoline-bismuth sulphocyanate. Vulnerary.

CYPRIDOL:—"1-% solution of nascent mercury iodide in sterilized oil."

CYSSATIT:—Synonym for infusorial earth.

DAMASCENINE:—Alkaloid from *Nigella damascena*.

DIATHESIN:—Substitute for the salicylate and salicin, "being the active principle of these." Dose: 7½–15 grn.

DIEHLOL:—Remedy for cutaneous diseases of animals.

DIETHYLGLYCOCOLL-GUAIACOL HYDROCHLORATE:—See Gujasanol.

ECHINOPSINE:—Alkaloid from *Echinops multiflorus*. Tetanic, like brucine and strychnine.

ELOSIN:—Resinoid from root of *Chamadirum luteum*. Tonic, diuretic, vermifuge, and emmenagogue.

ENOPHTHALMIN:—Oxytoluylmethylvinylidacetone-alkamine hydrochlorate. Closely allied to eucaine; mydriatic in 2 to 5-per-cent. solution.

EPICARIN:— $CH_3.COOH.OH.CH_3.C_{10}H_6.OH$ . Oxy-naphtyl-ortho-oxytoluylic acid. Antiscabic. Used in 10-per-cent. ointment or solution.

EPINEPHRINE:—Active constituent of suprarenal capsules. Vaso-constrictor.

ETHYLAMINE DIAMINE-MERCURY CITRATE:—Disinfectant for hands and surgical instruments.

EUBIOL:—Hemoglobin preparation.

EUPYRIN:—Paraphenetidin vanillinethylcarbonate. Mild antipyrine.

FERSAN:—Ferruginous phosphorus-containing nutritive.

FORMALDEHYDE - BISULPHITE:— $H.CO.H.Na_2S_2O_5$ . Antiseptic.

FORTOIN:— $CH_2(C_{14}H_{11}O_4)_2$ . Methylene dicotoin. Intestinal astringent. Dose: 4 grn.

FURUNCULIN:—Yeast preparation intended for use in furuncles, gastric and intestinal catarrhs, etc.

GIOUARDI:—A kind of fermented milk.

GUAIACUINOL:—Quinine dibromo-guaiacolate.

GUAIACOL CACODYLATE:—Used in tuberculosis. Dose (subcut.): ¼–1 grn.

GUILANDINA BONDUCELLA:—See Bonduc Seed.

GUJASANOL:—Diethylglycocol-guaiacol hydrochlorate. Antiseptic. Used in phthisis, ozena, etc. Dose: 15–60 grn.

HEDONAL:—Methylpropylcarbinol-carbamic-acid ester. Hypnotic. Dose: 20–30 grn.

HELTHIN:—Test for nitrites in potable waters. Consists of acidulated solution sodium parasulphanilate, and of sodium or potassium amidonaphtol-disulphonate.

HONTHIN:—Compound of tannin and albumin. Intestinal astringent. Dose: 8–20 grn.

HYPUSACETIN:— $C_6H_5.OCH_2.CO.C_6H_5.NHC_2H_5$ . Acetophenonacetylparamidophenol ether. Hypnotic and antipyrine.

I BIT:—Bismuth Oxyiodotannate. Vulnerary.

- ICHTHARGAN**:—Ichthyol-silver; 30% Ag. Antiseptic and astringent. Used in gonorrhea, ophthalmia, etc.
- ICHTHIFORM**:—Ichthyol-formaldehyde. Intestinal disinfectant and antiphlogistic; also vulnerary.
- INTESTIN**:—Bismuth-naphthalin benzoate. Intestinal antiseptic. Dose: 8—15 grn.
- IODOLEN**:—Iodole-albumin compound containing 36 per cent iodine. Succedaneum for iodides internally; externally non-toxic, non-irritant antiseptic.
- IODONAFTAN**:—Ointment base like naftalan; 3% iodine.
- IRON CACODYLATE**:—Used in chlorosis, chloroanemia, etc. Dose: 2—4 grn. daily; hypodermically,  $\frac{1}{2}$ —1½ grn.
- IRON AND AMMONIUM ARSENO-CITRATE**:—Antiperiodic. Used in children hypodermically. Dose:  $\frac{1}{2}$  grn. every second or third day.
- KINEURIN**:—Quinine glycerinophosphate.
- KINKÉLIBAH**:—Leaves of *Cassia occidentalis*. Febrifuge. Dose:  $\frac{1}{2}$  oz. in decoction.
- KO-SAM**:—Seeds of *Brucea sumatrana*. Used in metrorrhagia, dysentery, and obstinate diarrhea. Dose: 5—45 seeds.
- LACTOLIN**:—Acid potassium lactate.
- LENNESINE**:—Glucoside from *Conisa filaginoides*. Cholagogue.
- LIGNO-SULPHITE**:—A liquid by-product obtained in the manufacture of cellulose. Used as an antitubercular by inhalation. The claims for it have not been substantiated.
- MASTUERZO**:—See *Prosopis strombulifera*.
- MAYTENI VITIS IDÆI**:—A plant from the Celastraceæ. Used in tinnitus aurium, cataract, and gingivitis.
- MENTHOL**:—Mixture of parachlorphenol and menthol. Antitubercular.
- MERCURIALGAM**:—An amalgam of mercury with aluminium and magnesium. Used as a substitute for mercurial ointment. Formerly called mercuriol.
- MERCURY TETRAIODOPHENOLPHTALEIN**:—Same as Apallagin. Antiseptic.
- METHYLENEDICOTOIN**:—See Fortoin.
- METHYLPROPYLCARBINOL-CARBAMIC-ACID ESTER**:—See Hedonal.
- METHYLPROPYLCARBINOL URETHANE**:—Hypnotic. Dose: 8—15 grn.
- NAPHTASAPOL**:—Succedaneum for naftalan.
- NECTRIANINE**:—A purified culture of *Nectria ditissima*, a parasitic growth found on trees. Recommended in the treatment of cancer.
- NURAL**:—Another name for Nutrol.
- OIL CORBA**:—See Sphagnol.
- OXYNAPHTYL-ORTHO-OXYTOLUYLIC ACID**:—See Epicarín.
- PARIETIN**:—Chrysophanic acid.
- PERSODINE**:—Sodium persulphate. Oxidizer like arsenic; antipyretic, tonic.
- PERUOL**:—Mixture of peruscabin and castor oil. Dermic.
- PERUSCABIN**:—Synthetic benzoic-acid benzyl ester. Used in scabies and other parasitic cutaneous diseases.
- PETROSAPOL**:—Succedaneum for naftalan.
- PHILLYRIN**:—From *Phillyrea latifolia*. Antimalarial.
- PIPERAZINE QUINATE**:—See Sidonal.
- PLASMON**:—Nutrient prepared from casein.
- PROPOLISIN**:—Antiseptic.
- PROSOPIS STROMBULIFERA**:—Mastuerzo. South American plant used in diarrhea and gonorrhea.
- PYROGLYCERIN**:—Nitroglycerin.
- QUININE DIBROMGUAIACOLATE**:—See Guaiaquinol.
- QUININE LYGOSINATE**:—Compound of quinine and lygosin (diorthocumarketone). Bactericide and antiseptic.
- QUINOLINE-BISMUTH SULPHOCYANATE**:—See Crurin.
- RACHITOL**:—Suprarenal gland in tablet form. Antirachitic.
- RESALDOL**:—Acetyl derivative of saloform and resorcin. Intestinal astringent and antiseptic. Dose: 30—75 grn. daily.
- ROBORAT**:—Dietetic prepared from corn.
- RUBIN**:—Ferruginous hematinic.
- SAGOTIA RACEMOSA**:—See Aratocio.
- SANODERMA**:—A sterilized mull bandage impregnated with bismuth subnitrate.
- SAPOLAN**:—Succedaneum for naftalan.
- SELAGINELLA APUS**:—"Snake moss." Used in snake and spider bites, infused in milk.
- SEPTICIDIN**:—Serum preparation used in swine fever or chicken cholera.
- SIDONAL**:—Piperazine quinate. Uric-acid solvent. Dose: 75 grn. a day.
- SILVER THIOHYDROCARBURO-SULPHONATE**:—See Ichthargan.
- SIMONILLO**:—*Conisa filaginoides*. Used in Mexico as a cholagogue.
- SITOGEN**:—Vegetable extract, to replace meat extracts.
- SODIUM DIIODOSALICYLATE**:—Succedaneum for iodoform.
- SODIUM PARA-FLUOROBENZOATE**:—Used in lupus and other tuberculous processes. Dose: 8 grn. thrice daily.
- SODIUM SULPHUROSO-BENZOATE**:—Antiseptic.
- SPHAGNOL**:—Corba Oil. Succedaneum for balsam Peru and tar in skin diseases.
- SPLENIFERRIN**:—Ferruginous hematinic.
- STAPHYLASE**:—Active constituent of beer yeast.
- TACHIA GUAYANENSIS**:—Caferana. Used in pediatrics for ague. Dose: 1—2 drops of tincture (1:5).
- TENALIN**:—Mixture of alkaloids from areca nut. Tape-worm remedy for animals.
- TERROL**:—Ointment-like petroleum residue. Succedaneum for cod-liver oil.
- TETRAMETHYLCYANOPYRIDON**:—Myotic.
- THYMOFORM**:—Condensation product of thymol and formaldehyde. Succedaneum for iodoform and dermatol.
- TOLOKNO**:—Food prepared chiefly from oats. Used in Russia for forced feeding in tuberculosis.
- UROTROPIN QUINATE**:—Same as Chinotropin.
- VIOFORM**:—Iodochloroxyquinoline. Succedaneum for iodoform.
- VISCIN**:—Glutinous substance resembling bird-lime obtained from *Viscum aucuparium*. Vehicle for dermic medicaments.
- YOHIMBINE**:—An alkaloid from the *Yohimbo* or *Yumbehoa* tree, growing in Southwest Africa. Supposed to possess aphrodisiac properties. Dose: about  $\frac{1}{12}$  grn.

## Progress in Materia Medica and Drug Therapy

### VALIDOL IN SCINTILLATING SCOTOMA

Validol, which is a combination of menthol and valerianic acid, is an oily liquid of aromatic odor and pleasant, refreshing taste. It has been used by Dr. Neustatter,<sup>1</sup> of Munich, in five cases of scintillating scotoma, with very good results. In four of the cases the validol, in doses of 15 to 20 drops on some powdered sugar, invariably produced the desired result—in a few minutes the flashing disappeared and the vision became normal. Where headaches were frequent, these also disappeared within a few minutes. In one case only, where the patient was a hard drinker, was the action of the validol variable; at certain times its action was prompt and effective, at others it failed entirely.

In view of the fact that the usual remedies produce hardly any result in this affection, the use of validol is certainly indicated, and the remedy deserves a thorough trial.

### PHOSPHORUS POISONING

A case of poisoning with some peculiar features is reported by Dr. Newey.<sup>2</sup> A man while drunk had taken a quantity of rat-killer containing phosphorus. He immediately complained of severe illness and of violent pain in the stomach, and was given salt and hot water, which produced vomiting and relieved him somewhat. He continued ill, however, and four days later became much worse, so that the doctor was sent for. The man was very thirsty, vomited constantly, and had severe pain in stomach and abdomen. The vomited matter proved on examination to consist wholly of altered blood of a very dark color. The stools were also dark and pitchy. In spite of treatment he continued to get worse, and died in a week's time.

The conditions found at the post-mortem were so peculiar that we publish them in detail: The whole of the neck in its entire circumference, back, and sides, bore the appearance of having been stained in a deep solution of Prussian blue, the color being most intense and brilliant; it was not mottled, but uniformly stained. The arms and legs showed an icteric tinge; their superficial veins looked as though they had been injected with a solution of Prussian blue, and were most beautifully mapped out. The stomach contained  $\frac{1}{2}$  pint of liquid blood, which was deeply colored blue; it showed softenings and ulcerations in

patches, and was thickened in other parts. The whole of the intestines showed signs of an irritant poison; they were deeply pigmented with the blue color, and the contents were dark and pitchy. The transverse colon was intensely inflamed, and the fat of the great omentum showed bright extravasations of blood, and was most striking in appearance. The heart, liver and kidneys showed signs of commencing fatty degeneration. The lungs and the liver were deeply colored blue. The brain was rather anemic, soft, and almost diffuent in parts.

### NUMEROUS USES OF ALUM

Alum, though a rather humble remedy, has nevertheless numerous therapeutic applications, according to Dr. Bunnell,<sup>1</sup> who thus enumerates the conditions in which it may be found useful. In sore throat it is used in a solution of 20 grn. to the ounce of water, either with a swab or spray (as it is destructive to the teeth, the mouth should be washed out with an alkali). In hemorrhage, when it can be directly applied to the blood-vessels, alum is a remarkably efficient hemostatic. Night-sweats, or sweating of the hands or feet, are benefited by a wash of 2 grn. to the ounce of water. Hemoptysis is lessened by a fine spray of a solution of alum, 24 grn. to the ounce of water. In bronchorrhea, or chronic bronchitis, chronic catarrh of the pharynx and larynx with excessive secretion, a solution of 16 grn. to the ounce of water may be used with good effect. It is very effective in nose-bleed, a small amount, finely powdered, being blown in with a powder blower, or applied on a piece of cotton wet with a solution of 24 grn. to the ounce of water. In uterine hemorrhage it may be used as an injection of the strength of 1 dr. to the pint. In hemorrhage after extraction of teeth, fill the cavity with a piece of cotton wet with a saturated solution, or covered with powdered alum. Conjunctivitis is benefited by a lotion of 2 grn. to the ounce of water, or in the form of alum curd, made by adding powdered alum to milk or white of an egg until a curd is formed, and this is applied to the eye every two hours. This is also efficient in ecchymosis of the eyelid (or black eye). In granular conjunctivitis, the lid is lifted and a crystal of alum is passed lightly over its reddened surface. In gonorrheal ophthalmia it may be used in 6 grn. to the ounce of water, applied four

<sup>1</sup> *Ophthalmol. Klinik*, 1900, No. 12.

<sup>2</sup> *Lancet*, 1900, No. 4021, p. 875.

<sup>1</sup> *Med. Council*, 1900, p. 379.

times per day. In mercurial ptyalism a solution of 20 grn. to the ounce is used. Chilblains and pruritus vulvæ are improved by a wash of 16 grn. to the ounce. In diphtheria and follicular tonsillitis alum in the crystalline form is applied in the shape of a pencil. In ingrowing toenail, with granulations, a piece of absorbent cotton soaked in a solution of 30 grn. to the ounce of water should be inserted under the edge of the nail. Burnt alum is a good dressing for old sores, ulcers, swollen gums, and ulcerative stomatitis. In chronic inflammation of the throat, a gargle of 10 grn. to the ounce of water is effective. Leucorrhea is benefited by a douche, containing 4 dr. of alum to the pint of water, night and morning. Internally, alum is used for diabetes, gastralgia, dysentery, and consumption. In lead colic it is given with morphine. In membranous croup it is given in emetic doses, 36 to 60 grn., every fifteen minutes to bring up the membrane. For hoarseness, mix powdered alum and sugar in equal parts, and take a little on the tongue and let it slowly dissolve. In acute lead poisoning alum may be used as an antidote, as it is a soluble sulphate; it is also emetic. In the latter stage of whooping-cough it can be given in from 2 to 5-grain doses in honey or molasses. In 30-grain doses every four hours it exerts a purgative influence. It is effective in immoderate secretions, as in the diarrhea of typhoid fever, night-sweats of exhausting diseases, passive bleeding from the lungs, stomach, kidneys, uterus, or bowels. It often relieves a cough that comes from a tickling in the throat. It is also useful used as a wash (weak) to strengthen the throat when it is in a relaxed condition.

#### METHYLENE BLUE AS AN ANALGESIC

Klemperer<sup>1</sup> publishes his results obtained by the employment of methylene blue (medicinal) as an analgesic in 27 cases of sciatica. In 8 cases it failed entirely, in 6 cases the pains marvelously disappeared in five days, in the remaining 13 the sciatica resisted the treatment for several weeks, but the pains were less frequent and the patients were enabled to sleep at night. Three to six capsules containing about 7 grn. were given daily. Slight gastric disturbances occurred, but they involved no serious inconvenience, and any pain during micturition was easily prevented by adding a little nutmeg to each dose. The writer has found the medication very useful in tabes, neuralgia, and myalgia in diminishing the intensity of the pains. In these conditions it is best to com-

mence with 4 grn., twice a day, and very gradually increase the dose up to 15 grn. or more. The drug must be absolutely pure, otherwise gastric, toxic, and diarrheal troubles will follow. It should be administered in well-made cachets, so as to avoid any discoloration of the mouth. The patient should be warned of the urinary change or color, and that some slight vesical spasm and dysuria may occur. The action of the methylene blue causes at first a numbness, passing gradually into analgesia; its action is rapid, but of not long duration. Hence it is necessary to continue the medication as long as any pain is felt. Local effects can also be obtained, but the disadvantage of its coloring power has not yet been overcome. It has been proposed also to use the methylene blue in subcutaneous injections, but at present there have been no experiences published. It is claimed that methylene blue in excessive doses does not cause the depression, etc., which usually results from increased amounts of the ordinary analgesics, and is worthy of extended use.

#### REPORT ON STYPTICIN

LED by the many excellent reports regarding the hemostatic power of stypticin, Prof. H. Walther,<sup>1</sup> of Giessen, employed the remedy in nearly 100 cases, comprising excessive menstrual hemorrhages, particularly among nullipara and young girls; in climacteric hemorrhages, where no other particularly malignant complications existed; in irregular discharges, aside from menstrual discharges, with great tendency to hemorrhage, and particularly those following operative measures, *e. g.*, curetting; and in hemorrhages due to diseases of the adnexa, para- and perimetritis, and also in displacements. In 75 per cent. of these cases the results obtained were very good; in the balance the hemorrhage required operative treatment, such as thorough curetting. An excellent influence was also exerted in a case of preclimateric hemorrhage, in which the development of malignant neoplasm could be with certainty excluded. In cases where hemorrhage persisted despite previous curetting, the author continued with the use of stypticin, and tamponing of the uterus with iodoform gauze. Denzel's hemostatic tincture (a 10-per-cent. tincture of ergot), was given in alternation with stypticin in these cases for a week or so. Of thirty cases so treated not a single failure was recorded. In hemorrhages consequent on childbirth, particularly in abortion, the author

<sup>1</sup> *Epitome of British Med. Jour.*, 1900, No. 2080, p. 75.

<sup>1</sup> *Med Times*, Nov., 1900, p. 346.

gave stypticin in seven cases, but with not much better results than could be obtained with ergot in such cases. In cases where there are remains of the ovum or placenta, stypticin is contraindicated, and an operation is necessary.

Stypticin appeared to exert a particularly valuable reflex action in cases where hemorrhage was due to abnormalities in the adnexa, and not to the uterine mucosa—i.e., chronic thickening and coalescence of the ovaries and tubes, with displacement and swelling of the uterus. In these cases the remedy, particularly with the employment of ichthyol, etc., gave unusually good results in most cases. In nine cases of intramural myoma the hemorrhage was completely checked by means of stypticin; two of these required operation later, because of large-sized, submucous fibroids, but the hemorrhage was nevertheless well controlled up to the time of operation.

The author finds that stypticin may be given during pregnancy, as he has given it in two cases of hemorrhagic endometritis with success.

In forming a judgment regarding the value of stypticin, the author states that the treatment of about 100 cases during a period of several months has shown the remedy to possess a sedative, hemostatic action; and that the remedy may well be employed in all cases where the hemorrhage is not due to anatomical causes; and in all gynecological cases particularly, as well as in post-partum hemorrhage, abortion, etc., although in these last it is best used in conjunction with ergot. In carrying out the treatment with stypticin, tablets containing  $\frac{3}{4}$  grain of the remedy were employed; for hypodermic injections a 10-per-cent. aqueous solution was used, the injections being preferably made in the gluteal region. In none of the cases treated were any subjective symptoms ever noted, or complained of by the patients.

#### METHYLENE BLUE IN MALARIA

Dr. M. Dunn,<sup>1</sup> of Louisiana, says that in the neighborhood where he resides filthy ponds and water-holes are found in great abundance, mosquitoes without number make life unbearable, and malaria in its worst form reigns supreme. In the estivo-autumnal type of malaria, treatment with quinine is generally attended with fatal results. Since he has commenced using methylene blue (medicinal) he considers it a God-send. He says: "There is no remedy yet discovered equal to methylene blue

in cutting short malarial fever, and especially malarial hematuria; the fever leaves gradually in from seventeen to fifty hours." The author uses Merck's brand of methylene blue, and is not afraid to use it freely. As a rule he gives a hypodermic of morphine and atropine half an hour prior to the methylene. His favorite formula for the latter is:

Methylene Blue (Merck).....	2 to 3 grn.
Quinine Sulphate .....	2 grn.
Iron Carbonate .....	1 grn.
Arsenous Acid .....	$\frac{1}{80}$ to $\frac{1}{50}$ grn.

For one capsule. For acute fevers, one capsule every three hours; in chronic forms, malarial, toxemia, a capsule every four to six hours.

Occasionally the methylene blue irritates the kidneys or causes nausea and vomiting. For the latter two conditions the author uses either cocaine in  $\frac{1}{10}$ -grn. doses, or a combination of cocaine, cerium oxalate, and bismuth subnitrate, or benzoic acid or morphine.

#### TREATMENT OF ALOPECIA

Dr. Scheffer,<sup>1</sup> after pointing out that the generally assigned causes to this disease are microbic and nervous, describes a mode of treatment which attempts to control the former by sublimate and the latter by pilocarpine injections. Pilocarpine is chosen for its property of inducing sweat. The sweat glands are analogous to the hair follicles, both embryologically and structurally, hence the suggestion that pilocarpine may equally stimulate the nervous centers of hair production. It is well known that in many diseases in which the excretory functions of the skin are increased there is also an increased production of soft, new hair in certain regions. Moreover, pilocarpine produces a local vaso-dilatation. The alopecial patch is well cleansed with 90 per cent. alcohol, and a syringe holding about 12 minims is then filled with the two medicaments. The upper third is filled with corrosive sublimate solution, 1 in 1,000, the second with 1 in 200 pilocarpine nitrate, and the lower third with 1 in 1,000 corrosive sublimate. The needle is introduced parallel with the scalp, and just underneath the epidermis, it is then emptied, and leaves a small, lentil-sized swelling. This is repeated around the periphery of the patch, and in a circle within it, the punctures being about  $\frac{2}{5}$ -inch apart. An alopecial patch the size of a dollar piece requires about twelve punctures. The treatment should be repeated every other day for some six or seven days. The immediate effects produced are an an-

<sup>1</sup> *Med. World*, XVIII, No. 12.

*British Med. Jour.*, 1900, No. 2084.

emic zone followed by a marked vascularity lasting for several hours. Five or ten minutes after the injection drops of sweat appear on the vascular zone, and this exudation continues for an hour. The secondary results (tabulated for some sixty cases extending over three years) are immediate arrest of the extension of the alopecia and a gradual reappearance of hair—first light and then darker—from periphery to center. This growth should be evident after four treatments, but in all cases the treatment should be persistent, and its duration will depend upon the size of the bare patch, the age of the lesion, the position—temporal and occipital alopecia is always the most difficult form to treat—and the age of the subject. The treatment has yielded most successful results.

#### EUPYRIN, AN ANTIPYRETIC

Eupyrin is a chemical combination of vanillin with *p*-phenetidin (vanillinethyl carbonate-*p*-phenetidin); it crystallizes in pale, greenish-yellow needles, of a mild, vanilla-like odor; is perfectly tasteless, soluble in water with difficulty, but is freely soluble in alcohol, ether, and chloroform. After numerous experiments on animals, Dr. Overbach<sup>1</sup> decided to try it in his practice, and in the 50 cases that he used it the drug proved a reliable and harmless antipyretic. According to the author this compound is superior to all other antipyretics in the fact that it possesses considerable stimulating properties. The reduction of temperature is produced gradually and the patient experiences no chilly sensation; on the average, after the administration of 24 grains of eupyrin there is a reduction in temperature of about 4° F. The stimulating properties of the compound are evidenced by a sensation of well-being—euphoria—experienced by patients and healthy persons alike. In neuralgia the drug has no value. The author recommends the drug as a mild, non-toxic antipyretic, indicated especially in children and in old people, and in febrile cases accompanied by great weakness.

#### DR. HOFF'S TREATMENT OF PULMONARY TUBERCULOSIS

Our yellow journals, which had been pining for some stirring sensation for quite some time, have discovered a new, marvelous, infallible treatment for pulmonary tuberculosis. Unfortunately, the treatment is neither new, nor marvelous, nor infallible, and Dr. Adolph Hoff, a modest assistant at Prof. Stoffella's clinic, little expected

that when outlining his treatment of dispensary patients in the course of an ordinary article in a medical journal<sup>1</sup> he would be taken up by the sensation mongers and treated as one of the greatest discoveries and benefactors of mankind.

The principal combination administered is made as follows:

Arsenous Acid .....	1½ grn.
Potassium Carbonate .....	3 grn.
Cinnamic Acid .....	4½ grn.
Distilled Water .....	80 min.

Make a perfect solution by boiling; then add:

Extract Opium (Aqueous) ....	4⅓ grn.
Cognac .....	6¼ dr.
Distilled Water .....	6¼ dr.

Dissolve and filter. Of this mixture, 6 drops are given at noontime and in the evening after meals; the dose is gradually increased up to 24 drops.

Should the fever persist, as it does in a few instances, the following mixture is given:

Quinine Sulphate .....	8 grn.
Aromatic Sulphuric Acid.....	12 min.
Tinct. Quinoidine .....	40 min.
Syrup Cinnamon .....	5 dr.
Cinnamon Water.....	2 oz. and 3 dr.

Tablespoonful three times a day.

Where the cough is very annoying and troublesome, dionin is prescribed with good effect. The formula is as follows:

Dionin .....	3 to 5 grn.
Ammonium Chloride .....	5 to 8 grn.
Sodium Chloride .....	2½ dr.

Divide into ten powders. One powder once, twice and up to four times a day, according to indications.

In addition to this medicinal treatment, hydrotherapeutic measures play a very prominent part. Cold water is applied to the chest and back every night, and the applications are followed by a thorough friction; after the skin is dry, a sleeveless jacket, wrung out of cold water, is put on, and a dry shirt slipped on over it. The jacket is removed in the morning, as soon as the patient gets up; the chest is dried, the cold water applications, followed by friction, are repeated, and the patient then dresses.

As will be seen from the above, the treatment is a good, common-sense one, but it does not contain a single drug or measure which has not been used before in the treatment of pulmonary tuberculosis.

#### SUPRARENAL EXTRACT AS A HEMOSTATIC

The hemostatic property of suprarenal gland extract may be utilized in a number of various conditions, says Dr. O. F. Grünbaum.<sup>2</sup> In hematemesis it is best given in small doses, frequently repeated, because

<sup>1</sup> *Münch. med. Woch.*, 1900, No. 47, p. 1635.

<sup>2</sup> *Wien. med. Woch.*, 1900, Nos. 47, 48.

<sup>3</sup> *British Med. Jour.*, No. 2079, p. 1307.



the blood-vessels remain contracted only as long as they are in contact with the drug. On the coagulability of the blood the latter has no influence. Hemorrhages from a small artery are more likely to be controlled by the suprarenal extract than a capillary oozing from a hyperemic mucous membrane. Whether the drug would prove useful in typhoid fever hemorrhage is uncertain, as we cannot know whether it would reach the site of the ulcer in an efficient form. The author has had no personal experience with the drug in this condition. In hemorrhage from the rectum the drug has proved most satisfactory; the method of using it is by dissolving two or three tablets in a few ounces of water and injecting into the rectum. It is also useful as an irrigation in hemorrhage from the bladder, and in post-mortem hemorrhage it may be used as a uterine douche. In hemophilia the author does not think the remedy would prove useful, because the condition is most probably due to a congenital hypoplasia of the walls of the blood-vessels. As the liquid preparations are quickly spoiled, the author prefers the tablet form.

#### COMPARATIVE VALUE OF CURETTAGE OF AND LOCAL APPLICATIONS TO THE ENDOMETRIUM

The value of curettage as compared with local treatment of the endometrium is discussed by Prof. Henry T. Byford.<sup>1</sup> In the author's hands curettage has proved disappointing; if the infection of the mucous membrane is recent, curetting is very liable to open up new channels of infection, carrying the inflammation to deeper parts; if, on the contrary, the infection is an old one, the deepest portions of the endometrium have probably become affected, and those layers curettage could not remove without destroying the entire membrane. In cases of septic and of acute puerperal infection, curettage is, therefore, useful only for the purpose of removing foreign material, retained and adherent débris, etc. There is another kind of endometritis which is not due to infection, but to a kind of hyperplasia; it is usually characterized by hemorrhages or by an abundant thin, mucous discharge. In these cases the author uses curettage to remove the redundant tissue, and then applies anti-phlogistics and astringents to limit vascular development. Curettage alone is rarely sufficient, because the vascularity of the tissues may extend too deep to be reached by the curette.

The local application that gave the au-

thor the best results is a 25-per-cent. solution of ichthyol in glycerin. The author has cured many cases by keeping the cervix dilated by means of sounds and applying the ichthyol-glycerin solution to the endometrium. The following case is given as an illustration. A patient who had contracted gonorrhea from her husband presented herself with a left pyosalpingitis. The author dilated the cervix gradually, until he was able to pass a sound the size of a lead-pencil. This was done twice weekly, and a 25-per-cent. solution of ichthyol in glycerin was each time applied to the endometrium. After a few weeks the left Fallopian tube, which was full of thick pus, and the left suppurating ovary were removed. Following the operation, the cervix was kept dilated with sounds and the endometrium disinfected with the ichthyol solution. In less than a year the patient became pregnant and gave birth to a healthy child. She has remained healthy since.

The author, in conclusion, says that the method that has cured the most cases in his hands has been: Dilation of the cervix with sounds twice weekly, application of the ichthyol solution to the corporeal endometrium, and painting the vaginal portion of the cervix and lower half or lower two-thirds of the cervical cavity with iodized phenol (glycerin, 1 part; liquefied carbolic acid, 2 parts; iodine, 1 part). This treatment, in conjunction with glycerin tampons, is also useful in chronic affections of the adnexa. No strong applications should be made to the endometrium, when there is any perimetritis present.

#### THERAPEUTIC USE OF IODIPIN

Dr. Sessous<sup>1</sup> gives his experiences with iodipin at the Halle Clinic. He gives it both subcutaneously and by the mouth. For internal administration he used a preparation containing 10 per cent. of iodine;  $\frac{1}{2}$  fluid dram caused iodine to appear in the nasal secretion in from ten to fifteen minutes, the action persisting for three or four days. For hypodermic use a 25-per-cent. iodine preparation is to be preferred, the action of which is much slower but more prolonged. By injecting 200 Cc. ( $7\frac{1}{2}$  fl. oz.) in divided doses in the course of ten days a store of 50 Grams ( $12\frac{1}{2}$  dr.) of iodine is accumulated in the body, which is gradually and slowly given off, and the organism is kept under the action of iodine for a long time. This prolonged action is useful in bronchial asthma and emphysema. The chief use of iodipin is in late syphilis.

<sup>1</sup> *Wisconsin Med. Recorder*, III, No. 11.

<sup>1</sup> *Edinburgh Med. Jour.*, VIII, No. 5, p. 467.

where potassium iodide causes gastric disturbances or proves useless. Sometimes it acts very quickly. Most authors recommend small doses of from 2 to 3 fl. dr. daily, but Radestock gives up to 10 or 12 dr. daily without ill effect, the drug being better borne than corresponding doses of the potassium salt. Iodipin is a fatty combination, which passes through the stomach unchanged, and from which, after absorption, iodine is only slowly liberated; hence, in several cases in which potassium iodide caused iodism, iodipin could be readily taken. In the Halle Clinic the drug was chiefly used in those syphilitic cases in which, for some reason or other, potassium iodide was contraindicated. Most patients took it readily—the oily character can, if necessary, be concealed in milk or coffee. Sessous gives a number of cases illustrative of its advantages. In one case potassium iodide in every form, even as enema, caused vomiting, while iodipin was readily taken and quickly healed a chronic gummatous condition. In a case of cerebral syphilis potassium iodide made the headache unbearable, while iodipin relieved it. Other cases are given in which potassium iodide had no effect, but which improved or healed under iodipin. In one case a distinct increase of weight was noted, a fact already mentioned by various observers. In conclusion, Sessous claims that, where other preparations fail or cannot be borne, iodipin must be tried; that it has proved as good an antisiphilitic remedy as potassium iodide, while there is little danger of causing iodism, and it is more easily taken. Lastly, it has the great advantage that it can be given hypodermically, which is a new method of administering iodine.

#### MEDICINAL TREATMENT IN TYPHOID FEVER

Dr. William Ewart<sup>1</sup> highly recommends the following combination in typhoid fever:

Solut. Mercuric Chloride (B. P.) 20 min.  
Tinct. Iron ..... 15 to 20 min.  
Syrup Orange or Lemon..... 1 dr.  
Water ..... 1 oz.

This dose is to be administered every six hours throughout the attack, and for ten days after defervescence to guard against a relapse.

[The liquor hydrargyri perchloridi of the British Pharmacopœia contains  $\frac{1}{16}$  grn. of corrosive sublimate to each dram; 20 minims, therefore, correspond to  $\frac{1}{48}$  grn.—Ed.]

The author says that while this combination will not avail against a fatal issue in

the very worst attacks, it has, so far as he has been able to judge, mitigated the severity of the great majority of cases, has almost always brought about a rapid amelioration of symptoms, such as disappearance of sordes, cleansing of the tongue, clearing of the complexion, and, above all, a return of the appetite. Diarrhea, if present, is quickly stopped by this combination, while should constipation ensue it is easily remedied by daily injections of glycerin. The results of this treatment have been so satisfactory that alcohol has hardly ever been called for. Port wine, though, is invariably given during convalescence. Though a very large series of cases have been treated in this way, salivation has never been observed. The treatment is always well tolerated, provided it is administered at an interval from the milk meals. As to the rationale of the treatment, the author thinks that the mercury and the iron are equally valuable. The iron acts as a local application to the ulcers and tends to constrict the bowel and its blood-vessels against the risk of hemorrhage. The mercury exerts its action upon the hepatic, lymphatic, and mucous systems and it is not unreasonable to suppose that it exerts a disinfectant action on the alimentary canal.

#### ENOPHTHALMIN

Dr. A. G. Cipriani<sup>1</sup> has found enophthalmmin very valuable in a number of cases in which he used it. The mydriatic effect of the drug manifests itself in twenty to thirty minutes, and lasts from three to six hours; the intraocular pressure remains unchanged. With the employment of a 2 to 5 per cent. solution no disagreeable effects were noticed, nor was there any special disturbance of accommodation. According to the author the drug seems especially useful in the various forms of iritis.

[Enophthalmmin is the hydrochlorate of oxytoluylmethylvinylidiacetonalkamin, a substance closely related to eucaine.—Ed.]

#### THE TREATMENT OF INCIPIENT TUBERCULOSIS IN DISPENSARY PATIENTS

After considering the general hygiene and diet of the phthisical patient, Dr. Henry L. Shively,<sup>2</sup> physician to the Presbyterian Hospital Dispensary, New York City, says that as regards drugs the best routine treatment in the poorer classes is the administration of creosote or some of its derivatives, with cod-liver oil and some preparation of malt. During the hot sum-

<sup>1</sup> *Lancet*, Dec. 8, 1900, p. 1644.

<sup>2</sup> *Wien. med. Woch.*, 1900, No. 46.

<sup>3</sup> *Phila. Med. Jour.*, Dec. 1, 1900, p. 1035.

mer months the hypophosphites may be substituted for cod-liver oil, but nothing can replace it permanently as a fat and tissue food, nor are any of its numerous commercial derivatives or so-called active principles to be considered as representing it. When the oil is well borne it should be given in the pure state. Children frequently acquire a fondness for it. The amount of creosote given daily ranges between 24 and 60 minims, and the author prefers to give it in the form of salol or keratin-coated pills, which become dissolved only on reaching the intestines, thus avoiding gastric disturbances. It may also be given with glycerin and whiskey, in emulsion, or shaken up with milk. Guaiacol or creosote carbonate, or thiocol, which latter is freely soluble in water, are better borne by the stomach, but they are too expensive for general dispensary use.

In one case, complicated with tubercular infiltration of the pelvic floor, ichthyol was used locally with good results, and the author, being favorably impressed by the drug, tried it in a series of sixty cases. He gave the ichthyol in doses of 10 minims, every four hours. "Of these 60 cases, 29 reported regularly for treatment, and of this number 25 (over 86 per cent.) were much improved, gaining in weight and the temperature diminishing, with a corresponding improvement in all subjective symptoms." In 5 cases the author found it necessary to discontinue the drug on account of the eructations and nausea.

Where the disease is progressing rapidly opium in small doses acts very nicely; not only does it act favorably on the cough and the hemoptysis, but it seems to exert a general tonic and encouraging effect; especially valuable is the Niemeyer pill, consisting of opium, quinine, and digitalis. For neuralgic pains the author advises a small cantharidal blister and rubbing the chest with the following liniment:

Menthol .....	3 dr.
Chloroform .....	3 dr.
Chloral .....	½ oz.
Camphor .....	3 dr.
Alcohol .....	to make 4 oz.

To control night-sweats a bath in the afternoon, with friction, or atropine or agaricin, is usually efficient; where these fail, potassium tellurate at night, in ½-grn. doses, may prove effective. For hemoptysis, the author insists on rest and use of opium or morphine, with iced compresses to the chest. For anorexia, bitter tonics or strychnine are recommended. For high temperature, phenacetin or acetanilid are sometimes useful, but generally

the fever is better controlled by baths and other treatment.

When there is an irritating, nagging cough, unaccompanied by expectoration, heroin in ⅛ to ¼ grn. doses is useful; ammonium carbonate, senega, dilute hydrocyanic acid, codeine, and hydrobromic acid have been found useful palliatives. Syrupy mixtures, though, as a rule, should be avoided, on account of their bad effect on the stomach. In cases of mixed infection, when streptococci swarm in the sputum, the author has seen occasional improvement from Marmorek's antistreptococcus serum, as prepared at the Pasteur Institute of Paris. In one case, after three injections of 20 Cc. each, the streptococci disappeared entirely from the sputum, the chills and sweats ceased, the temperature diminished, and there was a marked improvement in the appetite and general condition. In other cases no improvement was observed.

#### PARALYSIS OF THE ARMS IN THE NEW-BORN

This condition, produced during delivery, according to Dr. Dauchez,<sup>1</sup> is readily cured, provided treatment is begun at once. The affected members are douched with large amounts of hot water—temperature 113-122° F.—several times a day; the arms to be massaged at the same time the douche is being given. The following mixture is to be added to each douche:

Aromatic Vinegar .....	3½ oz.
Tinct. Arnica .....	1 oz.
Tinct. Nux Vomica .....	75 min.
Tinct. Canella .....	4 dr.

After the douche the following ointment is rubbed on the affected arm, and it is then covered with absorbent cotton:

Guaiacol ....	8 min.
Tinct. Iodine .....	45 min.
Benzoinated Lard.....	} of each, 4 dr.
Wool-fat .....	

Besides these means, the author recommends massage and the faradic current. A weak current is to be applied every other day for about five minutes. The application is to be made to the muscles, and not to the nerves which innervate the muscles.

#### PUERPERAL ECLAMPSIA

Dr. G. E. Fitzgerald<sup>2</sup> reports five cases of eclampsia that came under his observation in private practice. In the first two cases chloroform was given for the convulsions and the child was delivered forcibly; both women died. In the other three cases, which were just as severe, the con-

<sup>1</sup> *Rev. Méd.*, IV, p. 135.

<sup>2</sup> *British Med. Jour.*, 1900, No. 2082.

vulsions being very violent and the urine practically solid with albumin, forcible delivery was not practiced; the treatment was with hypodermic injections of morphine and atropine, with solution of ammonium acetate and cathartics. All three cases recovered. A point of great interest in one case was that the child, a male, when born, was quite black, and after taking two or three breaths had a severe convulsion. He was put into a warm bath and given castor oil; for four days he took no food, his lips being moistened with milk and water. During this time he had thirty-nine convulsions in all; on the fifth day they ceased and the boy is now perfectly healthy.

The author's personal experience leads him to the conclusion that to induce labor in eclampsia, however severe the convulsions, is a great mistake; that morphine is the drug *par excellence* in that condition, it being free from the heart-depressing effect exerted by chloral and chloroform. The old notion that it had a bad effect in cases of kidney trouble appears to have no foundation in fact.

#### THIOCOL IN LARYNGEAL TUBERCULOSIS

Potassium guaiacol-sulphonate, or thiocol, in laryngeal tuberculosis, is reported by Prof. Ad. Fasano,<sup>1</sup> of Naples, as having been used by him during the past year in fourteen cases, three primary and eleven secondary, and from the results obtained he is led to confirm fully the favorable statements made by others on the use of this remedy. The author believes that thiocol is a remedy which is capable of effecting a complete cure of tuberculosis in the early, and sometimes even in the secondary, stages, while in the more advanced stages it hinders the rapid development of the phthisical processes, and decidedly improves the patient's condition. Two of the primary cases treated exhibited tuberculous infiltrations of the arytenoid spaces, and were treated with small doses of thiocol internally, and externally the following insufflation was used:

Thiocol .....	1½ to 2½ grn.
Cocaine Hydrochlorate .....	6 grn.
Boric Acid .....	15 grn.

The result was a definite cure in less than a month. In the third case tuberculous infiltration and ulceration of the larynx were present. In this case scraping was first performed, then insufflations practised with the mixture made as above, while thiocol injections were also adminis-

tered. This case was also completely cured. The eleven remaining secondary cases comprised tuberculous infiltrations and ulcerations. These cases also were treated with scraping and insufflation, thiocol being given internally at the same time. In seven of these cases the tuberculous laryngeal lesions healed perfectly, and the other four were very much improved. These results, the author states, led him to conclude that thiocol is the best antiseptic which has yet been introduced for tuberculosis.

Bacteriological experiments prove its destructive action on the tubercle bacilli; clinical tests show that as it specifically combats the tuberculous process, it relieves the biological vitality of the tissues and trophic conditions. The author is convinced that thiocol has a great future not only in pulmonary tuberculosis, but also in laryngeal tuberculosis, used either alone or in conjunction with scraping. The local application must be supported by internal medication as well, because the latter combats the abnormal fermentative processes in the intestinal canal, increases nutrition, and hence renders the organism more resistant to the tuberculous process.

#### SUPRARENAL IN DISEASES OF THE BRONCHI

Dr. S. Floersheim,<sup>1</sup> in a somewhat too strongly colored article, states that suprarenal powder is indicated in acute and chronic bronchitis, bronchiectasis, asthma, congestion, and edema of the lungs, hemoptysis, and in some cases of pulmonary tuberculosis, especially in those associated with hemoptysis. The author administered the suprarenal in the form of powder, in doses of 3 grains, ordering the powder to be chewed without water, and then to be swallowed. Seven cases of acute bronchitis are briefly reported, in which the action of the suprarenal powder seemed well-nigh marvelous.

The following will serve as a sample of the reports: "Mrs. A. developed a severe attack of acute bronchitis; suprarenal powder within *two* minutes lessened the cough and expectoration, and the patient felt better. The suprarenal powder was administered every two to three hours, with benefit."

In sixteen cases of hemoptysis, the author says, the suprarenal powder, chewed, stopped the bleeding from the lungs in less than half an hour; in six cases the hemorrhage stopped in five minutes. Similar statements are made as to the effect of the suprarenal in pulmonary tuberculosis,

<sup>1</sup> *Med. Sentinel*, VIII, No. 11, p. 371.

<sup>1</sup> *Med. Record*, LVIII, No. 20.

congestion and edema of the lungs, bronchiectasis, etc.

[It seems to us that the advocates of supprarenal therapy are going a little too far in their enthusiasm; such glowing reports are very apt to create skepticism in the minds of judicious and discriminating physicians.—ED.]

#### POISONING BY LYSOL

A boy of fourteen, suffering with dysentery, was given a rectal injection of about 1½ ounce of lysol, dissolved in a pint of water. About half an hour later he was found in bed quite unconscious, and remained so when the doctor, Wm. Hartigan,<sup>1</sup> called to see him, about four hours afterwards. He was in a state of complete collapse, sweating profusely, with the legs drawn up, and with pinhole pupils; the pulse was almost uncountable, and the respiration forty per minute; temperature subnormal. Hypodermics of strychnine and ether produced some slight effect on the pulse, but after a short while a quantity of dark-brown, grumous blood was suddenly ejected from the mouth and nose, and exitus lethalis took place. No autopsy was made.

The author says that he frequently, in similar cases, irrigated the lower bowel with a solution of ½ ounce of creolin in 3 pints of water, leaving some in the bowel, without the slightest ill-effect, and almost invariably with marked benefits.

#### EARLY PULMONARY TUBERCULOSIS

Dr. Carageorgiadès<sup>2</sup> employs four drugs in the treatment of pulmonary phthisis, and he says that their rational and systematic use yields most excellent results. The drugs are sodium cacodylate, ichthyol, aristol and cantharidin. The first is prescribed as follows:

Sodium Cacodylate ..... 15 grn.  
Syrup ..... 10 oz.

A tablespoonful in water before each meal, gradually increased to two tablespoonfuls.

This is given for ten successive days out of every twenty; the hypodermic use of the cacodylate is free from pain, and 15 minims of the following solution may be injected, once or twice daily:

Sodium Cacodylate ..... 8 grn.  
Distilled Water ..... 2½ dr.  
Formaldehyde ..... 1 drop.

The ichthyol and the aristol are given in the form of pills—4 grn. of the former and 1 grn. of the latter to each pill. From four pills a day the number is gradually

run up to sixteen, and then again reduced to ten or twelve. The author prefers ichthyol to creosote, because he says that ichthyol is borne better than creosote and can be used in large doses for a long time. Aristol, consisting of iodine and thymol, is considered a valuable adjuvant. Cantharidin is given in doses of  $\frac{1}{650}$  of a grain, two to six times a day. According to Buckner, Richet, and other authorities, cantharidin causes an exudate of serum around a tubercular lesion; consequently, if the system be saturated with antiseptic medicaments, these will come in direct contact with the tubercular focus. The cantharidin can usually be taken for long periods without any untoward effects, though occasionally it causes vesical tenesmus. These drugs, the author says in conclusion, if combined with plenty of fresh air and an abundant diet—which should include six to twelve yolks of eggs and about 3½ ounces of cod-liver oil daily—constitute a most excellent plan of treatment.

#### GIAOURDI

This is a preparation of fermented milk, with which Dr. Achilles Rose<sup>1</sup> became familiar while in Greece. It differs very materially from both kumyss and zoolak. It is prepared as follows: Milk is boiled for about an hour, under constant stirring, until it attains a certain thickness; it is then cooled down to 113° F. (if sheep's milk is used, it must be cooled to 122° F., while goat's milk is cooled to a temperature of 104°), and the ferment is added. The ferment is prepared by soaking a dry fig in 3 ounces of water over night, and adding to this 2 drops of lemon juice and a hardly perceptible quantity of rennet in the morning. It is important to have the milk of the proper temperature when the ferment is added, as the latter is destroyed at a higher temperature, while at a lower it does not exert its activity. It keeps ten days if stored in a cool place. According to the doctor, it forms a desirable addition to the diet of the sick.

#### SODIUM GLYCOCHOLATE IN HEPATIC COLIC

Dr. H. Richardson<sup>2</sup> says that the only true cholagogue is ox-gall, but the objection to its use is that it contains all the impurities which it is the function of the bile to eliminate. Sodium glycocholate being the chief active principle of bile, he isolated it for purposes of experiment. One cholesterine gall-stone and one pigment stone

<sup>1</sup> *British Med. Jour.*, 1900, No. 2082.

<sup>2</sup> *Med. News*, LXXVII, No. 22.

<sup>1</sup> *Post-Graduate*, Dec., 1900.

<sup>2</sup> *Virginia Med. Semi-Monthly*, Dec. 7, 1900.

were put in a 1-per-cent. solution of the salt; both stones disintegrated and dissolved, the cholesterine stone rather slowly. It therefore occurred to the author that sodium glycocholate would at least prevent the formation of gall-stones, and probably slowly dissolve those already formed. The treatment was tried in five cases with complete success, and no attacks have taken place since the treatment was instituted. The glycocholate was given in doses of 5 grains three times a day, then decreasing to the same dose once a day. One case remained free from attacks of gall-stone colic for nearly two years, though previously such attacks occurred every two or three months; the other four cases remained free from attacks for periods of six months to one year. The treatment was also tried with marked success in several obscure cases of hepatic trouble, characterized by dirty, yellow-colored patches (liver spots) on the skin.

#### ABORTMENT OF FOLLICULAR TONSILLITIS

Follicular tonsillitis can be aborted in a few hours if seen early, or in twenty-four to thirty-six hours, if seen late, provided it be properly treated, states a contemporary.<sup>1</sup> The proper treatment, according to that authority, is as follows: Swab the throat every hour, alternately, with peroxide of hydrogen and with a mixture consisting of potassium chlorate, 30 grn.; tincture of ferric chloride and glycerin, of each  $2\frac{1}{2}$  dr.; and water to make 1 oz. After each swabbing a tablet consisting of  $\frac{1}{4}$  grn. each of calomel and sodium bicarbonate is to be dissolved slowly in the mouth. For the headache, fever, muscular soreness and pains, the following tablets are given:

Acetanilid .....	$2\frac{1}{2}$ grn.
Monobromated Camphor.....	$\frac{1}{2}$ grn.
Sodium Salicylate.....	1 grn.
Ext. Hyoscyamus.....	$\frac{1}{8}$ grn.
Tinct. Gelsemium.....	2 min.

One such tablet every three-quarters of an hour until comfortable, or until five have been taken.

For children the same treatment is recommended, except that the calomel tablets are stopped as soon as the bowels have acted freely, and the doses of the last-mentioned tablets are reduced proportionately to the age of the child.

#### STOMACHIC ACTION OF OREXINE TANNATE

Prof. Franz Penzoldt,<sup>2</sup> director of the Medical Polyclinic in Erlangen, states that the remarkable influence which orexine exhibited in healthy individuals in producing a strong sense of hunger and in hastening gastric digestion led to its trial in patients

suffering with loss of appetite. Trials were first made with orexine hydrochlorate, then with the basic orexine, and finally with orexine tannate, which proved the best form of all. After excluding every possibility of suggestion as a factor, the drug, in the great majority of cases, increased the appetite or fully restored it, and the improved digestion and nutrition frequently manifested themselves by an increase in strength and weight. Similar favorable results have been reported in detail by a number of authors; in a small number of cases only were negative results obtained. The action of the drug varies with different individuals. In some cases an improvement in the appetite may be noticed within a few hours after the administration of the first dose, as in the case of experiments with healthy persons. In some cases the effects produced by a single dose lasted a long time. In the majority of cases, however, the dose had to be repeated for several days before the desired result was obtained. It sometimes happened, too, that the orexine produced no result whatever for the first three or four days, but on continuing a few days longer an unmistakable effect could be observed—an anorexia which had lasted for weeks would sometimes disappear completely. The cases of anorexia in which orexine proved useful were chiefly those which were not due to organic changes in the stomach; they were mostly cases of general debility and lowered nutrition, of pulmonary tuberculosis (without hectic fever), and of weakened condition following capital operations. As in such cases anorexia and poor digestion may become of fatal import, orexine has won for itself a certain place in the treatment of these conditions. Very frequently a positive effect has been obtained in the anorexia and vomiting of pregnant women.

Many favorable results have recently been reported in the treatment with orexine of nervous affections, such as neuralgia, neurasthenia, and migraine. Orexine will also prevent or remove disagreeable symptoms caused in healthy persons by some article of food against which they have a special idiosyncrasy. The effect of the remedy in hypochlorhydria is positive. In a number of cases the gastric contents were first analyzed to show the absence of hydrochloric acid; upon the administration of orexine the hydrochloric acid gradually appeared and remained present in the gastric juice even after the discontinuance of the remedy. These observations, together with those made on healthy individuals, would seem to indicate that the good effects

<sup>1</sup> *Med. Council*, 1900, p. 367.

<sup>2</sup> *Text-book of Clinical Therapeutics*, ed. of 1700, p. 253.

of the remedy are due in part to the increase in the gastric secretion of hydrochloric acid.

That the appetite does not become improved in every case is due to the fact that we do not always know the exact conditions which are at the bottom of the disorder. But when a positive result is obtained it is sometimes so brilliant that no other stomachic can show effects to equal it; the appetite is often truly voracious.

Though orexine will not displace all other stomachics and appetizers, nevertheless it deserves to be used extensively in the treatment of the above-mentioned conditions. In nephritis it should be used with caution. By-effects, such as vomiting and burning in the esophagus, are altogether wanting with orexine tannate in proper doses, and for this reason I now recommend this salt exclusively.

Orexine tannate is a yellowish powder, odorless, tasteless, and insoluble in water. It is best administered in the form of wafers, in doses of 5 to 8 grains, at 10 A.M., followed by a cup of bouillon. After we have assured ourselves of the innocuousness of the drug in the given case, the dose may be repeated twice daily. If no effect is produced within four or five days the treatment is discontinued for a few days, and then resumed.

#### MERCURIAL STOMATITIS

In treating a patient with mercury, says Dr. C. Bruhn,<sup>1</sup> the physician must pay special attention to the patient's mouth, as in this organ the symptoms of mercurial intoxication first show themselves. The patient must rinse his mouth frequently with a good wash. Should a stomatitis nevertheless make its appearance, we must apply pure tincture of myrrh to the gums; if the stomatitis is rather severe, painting the gums with a 3 to 5 per cent. solution of chromic acid or a 5 to 10 per cent. solution of silver nitrate may prove effectual. In some cases it is necessary to interrupt the mercurial treatment at once.

#### INTERNAL ANTISEPSIS

In a discussion on the subject, "Is Internal Antisepsis Possible?" Dr. Thomas E. Satterthwaite,<sup>2</sup> consulting physician to the New York Post-Graduate Hospital, said that internal antisepsis was, in his opinion, no longer a theory, but a *fact*, and in the near future it was going to help us greatly in the treatment of some of the infective diseases. While it has not been shown

that either guaiacol or creosote destroy the bacteria of the intestinal tract in infective diseases, they do appear to modify favorably the infective process and to restrain the activity of the bacteria. The author's experience in this line has been clinical and confined to the use of those two remedies in phthisis, but he had favorable results from them and, therefore, prescribes either one or the other in all advanced cases. He also thinks that the preparations of bismuth are effective internal antiseptics. He has had no experience with the phenolates and naphtholates, but depends on the subnitrate, and thinks no one remedy so effective. In intestinal dyspepsia he also uses the subgallate. Two other antiseptics, which, according to the author, deserve more attention than they are having at present, are ox-gall and iodine.

#### POISONING BY VAPO-CRESOLENE

Dr. L. S. Adams<sup>1</sup> states that he reports these cases because vapo-cresolene, a substance of unknown composition, is to be found in a great many houses in which there is a child with a cough. He has seen two cases of carbolic-acid poisoning directly attributable to the inhalation of the fumes from a vapo-cresolene lamp. The first case, a child one-year old, which was said to be dying, was found by the author in a state of coma, with a cold, clammy sweat and marked pulmonary edema. It had been inhaling the fumes from a vapo-cresolene lamp for twenty-four hours; it began to pass black urine, but during the last twenty-four hours had passed no urine at all. The child was taken out in the open air, given water to drink and it eventually recovered. The second case was similar to the first, but the symptoms of poisoning were milder. The second case also recovered.

#### QUININE AS AN EMBOLIC

Quinine does seem to exert occasionally abortifacient properties. One woman, a patient of Dr. F. Schwarz,<sup>2</sup> induced abortion three times by taking quinine in daily doses of 30 to 75 grains. On becoming pregnant the fourth time she also took quinine, but it did not produce the desired effect; she repeated the quinine every month at the time of the expected menstruation, for three months, without success. At the fourth month she took 120 grains of quinine, and abortion took place on the day following.

<sup>1</sup> *Berl. klin. Woch.*, 1900, p. 1073.

<sup>2</sup> *Post-Graduate*, Nov., 1900.

<sup>1</sup> *Archives of Pediatrics*, Dec., 1900, p. 922.

<sup>2</sup> *Klin.-therap. Woch.*, 1900, p. 1464.

**BROMIPIN IN EPILEPSY**

Dr. R. Verhoogen,<sup>1</sup> of Brussels, enthusiastically recommends bromipin in the treatment of epilepsy. He says that bromipin, which is an addition product of bromine and sesame oil, can be given either per os or per rectum, or may be rubbed into the skin by inunction; but the preferable method is per os. A tablespoonful of the 10-per-cent. bromipin—the only preparation on the market—contains 24 grains of bromine, equivalent to about 38 grains of potassium bromide. It passes the stomach unchanged; in the intestines becomes emulsified, and is absorbed rapidly. Similarly to other fatty substances, it is deposited in the tissues and becomes gradually decomposed on coming into contact with the alkaline serum, so that there is a continuous liberation of small quantities of bromine. This is the reason why there are never any gastric disturbances or symptoms of bromism.

What, however, is still more remarkable is the fact, noticed by the author, that when bromism is present as a result of the administration of the alkaline bromides, as soon as the latter are replaced by bromipin the bromism disappears. In therapeutic effect the bromipin equals the bromides in every respect, while it is free from their disadvantages.

**TRICHLORACETIC ACID IN MIDDLE-EAR DISEASE**

Dr. Julius Toth<sup>2</sup> employed trichloroacetic acid in chronic middle-ear affections and is much satisfied with the results. At first he used a 3-per-cent. solution on a piece of cotton; later he dropped it in the external auditory canal by means of a dropper—8 to 10 drops proved to be the proper amount. By the action of this acid the defect in the drum membrane becomes filled in, but the regeneration of the tissue is very slow; the regeneration of  $\frac{1}{32}$ th inch square takes from twenty to twenty-five days. Nevertheless it is an invaluable method, as a cure takes place in 50 per cent. of the cases. Of the author's thirty-six cases of chronic, purulent otitis media and of perforation of the drum membrane with suppuration, eighteen were cured.

**PULMONARY TUBERCULOSIS**

Rea<sup>3</sup> believes that the combination of pulmonary gymnastics with intrapulmonary medication by nebulization under high pressure is a plausible and successful means of fighting this disease. A combi-

nation of creosote, terebene, oil of eucalyptus, menthol, and a liquid form of petroleum is recommended. This is advocated on account of the belief that such drugs, particularly creosote, used in this manner lessen the fertility of the soil by improving the catarrhal condition. Of all internal remedies that have been advocated, probably creosote has stood the test of time best. It improves appetite, lessens the bronchial inflammation, decreases autoinfection from the bowels, lessens the fever, etc. Recently, however, he has administered ichthyol almost exclusively in place of creosote, and believes it served the same purpose just as well, and yet did not seem to be so irritating to the stomach. Iodoform inunctions as recommended by Flick he has used, and believes that they have virtue. The deficient innervation and impaired circulation must also be carefully looked after.

**TREATMENT FOR IVY POISONING**

Dr. G. M. Robertson<sup>1</sup> thinks that his is the best treatment for dermatitis venenata. It consists in bathing the affected parts every three hours with a solution of sodium bicarbonate, then covering with cloths saturated with the following mixture:

Lead Acetate .....	3 dr.
Tinct. Opium .....	1 oz.
Spirit Nitrous Ether .....	4 oz.
Water .....	to make 1 pint.

The poisonous principle existing in the several species related to *rhus toxicodendron* is a volatile substance known as toxicodendric acid; the sodium bicarbonate being an alkali, neutralizes the acid, while the other mixture allays the inflammation and pain.

**ASPIRIN IN RHEUMATISM AND TUBERCULOSIS**

Dr. Louis Renow<sup>2</sup> has used aspirin (acetyl-salicylic acid) in forty-three cases, and, according to his report before the Société Médicale des Hôpitaux, he obtained the best results in acute rheumatism; in subacute rheumatism the results were but half satisfactory. The drug is well-borne by the stomach and produces a profuse perspiration; though it possesses considerable antipyretic powers, the author warns against its use in tuberculosis, on account of the profuse perspiration and consequent weakness caused by it. At the same meeting, Dr. Cowby stated that in rheumatism and pseudo-rheumatism of childhood he used aspirin with great success as a substitute for sodium salicylate.

<sup>1</sup> *Klin.-therap. Woch.*, 1900, p. 1558.

<sup>2</sup> *Klin.-therap. Woch.*, 1900, p. 1464.

<sup>3</sup> *Phila. Med. Jour.*, Dec. 1, 1900, p. 1021.

<sup>1</sup> *Alkaloidal Clinic*, Dec., 1900.

<sup>2</sup> *Munch. med. Woch.*, 1900, p. 1646.



# MERCK'S ARCHIVES

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JANUARY, 1901

To the readers of MERCK'S ARCHIVES: From the bottom of our heart we wish you all a Happy New Year! May the dawn of the new century bring you all prosperity, health, and—what is most important of all—contentment and peace of mind!

\*\*\*

It may seem rather strange to wish physicians good health. But we know of no element that physicians, as a class, are so urgently in need of, and which they lack so badly, as that of good health. In serving humanity, in ministering to the health of the community, physicians are apt to forget that they themselves are but human, that they are not immune against bodily ills, and that overwork, constant mental and nervous strain, irregular meals, broken sleep, and exposure to all sorts of weather will have their inevitable consequences. Nature is no more lenient to a physician for the breaking of her laws than she is to a layman. To convince ourselves of the truth of this it is sufficient to glance through the mortality tables of any of the large insurance companies. In fact a physician is considered a "poor risk" by all companies. Wishing good health to physicians is, therefore, eminently in order.

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THE diploma-mill gang which has been disgracing Chicago for the last few years, making it a by-word of contempt and derision in the eyes of the entire civilized world, has at last been broken up. Whether temporarily or permanently remains to be seen. The punishment that the organizer of the swindling concern, James Armstrong, has received—namely, a year's im-

prisonment in jail and a fine of \$500—is, in our opinion, entirely inadequate for the crime. A man who will deliberately jeopardize human lives for the sake of money-making deserves no consideration at the hands of society.

\*\*\*

WE notice with regret that Dr. George M. Gould has been retired from the editorial management of the *Philadelphia Medical Journal*. An abler, more fearless, and more "backbony" editor would be hard to find. We understand that it is just the last quality—a too stiff backbone—which led to his precipitate retirement. There are rumors of the organization of a new medical journal, with Dr. Gould as editor.

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THE human mind needs diversion. "A little nonsense now and then is relished by the best of men" is as true now as at the time when it was penned. In our miscellany department, opposite the advertising pages, we try to furnish our readers with an hour or so of diversion. Some of the best gems, culled from medical and non-medical sources, will be found there.

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WE are in receipt of a pamphlet by Dr. D. B. St. John Roosa, entitled "The Need of State Endowment for the Advancement of Medical Science," in which the author shows convincingly the benefits that would accrue to medical science from the establishment by the government of such institutions as the Koch Laboratory in Germany (Institute for Infectious Diseases) or the Pasteur Laboratory in France. The pamphlet is full of food for thought, as the following quotations will show:

"When we remember that America produced the sewing machine, the grain reaper, the electric telegraph, the telephone, and the steamboat, as well as the electric lighting of houses and streets, we can realize what the American mind would accomplish were laboratories sustained by the state as they are in France and Germany. It is marvelous that the American physicians have held their own so well in clinical medicine and surgery when compared with their European compeers, who have had every resource provided. . . . I hold that the state ought to provide sufficient funds for the adequate and thorough instruction of all the pupils in every medical institution already legally authorized, and for such others as the increase of population may cause to be established under the regulation of the state."

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

R. B. N.—What is the remedy, in your opinion, to clear a badly coated tongue, in non-febrile condition? Pepsin, pancreatin, and cathartics seem to be of little or no value.

A coated tongue is but very seldom a disease *per se* (sometimes it is, though, contrary general opinion notwithstanding); it is generally a symptom of some underlying disturbance somewhere in the alimentary tract, and cure of the underlying conditions will also clear the tongue. There is one remedy, though, which is more effective than all others in clearing a badly coated tongue, regardless of the etiology, and that is hydrochloric acid: about 10 drops of the dilute hydrochloric acid, in 4 to 8 tablespoonfuls of water three times a day after meals, is usually sufficient. Scraping the tongue with a tongue-scraper or rubbing it with a piece of lemon-peel are useful mechanical measures, as they remove and render the soil unfavorable for the breeding of the bacteria.

V. H. asks us to decide a (to him) very important question; namely, whether he is correct in his statement that "Veratrine is not given internally, but is employed as an external application only."

Prof. H. A. Hare makes this statement in his Text-Book of Practical Therapeutics (p. 378): "Veratrine is never used internally. It is employed chiefly in the form of an ointment rubbed into the skin over parts affected by muscular rheumatism and rheumatic joints and over neuralgic nerves. The official ointment or the oleate should be used, the latter most carefully, as absorption of the drug may take place in sufficient quantity to *poison* the patient." Prof. R. Bartholow says (Practical Treatise Materia Medica and Therapeutics, p. 720): "Veratrine is used only externally." Prof. S. O. L. Potter says in his Handbook of Materia Medica, Pharmacy and Therapeutics (p. 514): "Veratrine is chiefly used externally. . . It may be absorbed through an abrasion of the cuticle and give rise to dangerous symptoms. . . Its *uncertainty* of action and the *dangerous depression* which it may produce have caused it to lose favor as an internal remedy." Prof. Hora-

tio C. Wood has this to say (Therapeutics: Its Principles and Practice, 11th ed., pp. 348, 349): "Although official, veratrine is almost never used in practical medicine." "Veratrine was formerly recommended in acute rheumatism and in dropsy, but with the growth of the modern materia medica this employment of it is *unjustifiable*. . . One-sixteenth of a grain of veratrine has produced most alarming symptoms. It is absorbed readily through the skin, and, even if used externally, is a *more dangerous* than useful remedy." From the foregoing quotations it will be seen that of giving veratrine internally there can be no question, and for this reason the best authorities append no dose—neither minimum nor medium nor maximum.

H. J. C.—What is the formula of Dewee's Emmenagogue? Is it the same as Dewee's Carminative?

The formula of Dewee's emmenagogue mixture is as follows:

Tinct. Ferric Chloride.....	3 dr.
Tinct. Cantharides .....	1 dr.
Tinct. Aloes .....	½ oz.
Ammon. Tinct. Guaiac.....	1½ oz.
Syrup .....	to make 6 oz.

Dose: A tablespoonful three times a day.

This is considered by many practitioners an excellent preparation for the treatment of simple non-organic amenorrhea.

Dewee's carminative is an entirely different preparation; it was official in the U. S. P. of 1880 under the name "Mistura Magnesiae et Asafetidae;" its formula is:

Magnesium Carbonate .....	3 dr.
Tinct. Asafetida .....	5 dr.
Tinct. Opium .....	38 min.
Sugar .....	5½ dr.
Water .....	to make 8 oz.

Dose: From a teaspoonful to a tablespoonful.

H. R. R.—Kindly state what is understood by Kernig's sign in meningitis, and what is its significance?

In 1884 Kernig described a sign which he considered as pathognomonic of meningitis. It consists in an inability to extend the knee fully when the patient is sitting in bed, the thighs extended at right angles to the body; when the patient lies on his back, the full extension of the leg at the knee-joint is easily accomplished. While the sign cannot be considered as absolutely pathognomonic of meningitis, it being met with in other forms of cerebral and spinal irritation, it is nevertheless a valuable sign, as, according to recent observations, it is easily elicited in 80 to 85 per cent. of all cases of meningitis. The phenomenon is explained as follows: The irritation of the

spinal motor nerves supplying the muscles in question increases the tonicity of the latter, so that their elasticity and length is diminished and their extension to the fullest limit becomes impossible.

H. H.—Please give a clear outline of Hoff's treatment of pulmonary tuberculosis, to which the papers are devoting so much attention at present.

Our correspondent will find a complete and satisfactory answer to his question on p. 23 of the present issue of the ARCHIVES.

W. W. O.—Please tell me what chemical change takes place in mixing Spts. *Ætheris Nitrosi* and Antipyrine in water, the resulting liquid being a beautiful clear green? Is the change of a nature to make the compound poisonous and what is the resultant compound?

The nature of the grass-green compound which antipyrine forms when mixed with spirit of nitrous ether has not been definitely determined. At first the compound was considered poisonous, and though this is denied by some investigators, we prefer to be on the safe side and would advise never to prescribe those two substances together.

This is a well-known example of chemical incompatibility.

J. B.—Phenazone is another name for antipyrine. To give the dose, therefore, would be superfluous.

A. W. D.—The dose of Formin in cystitis is 5 to 8 grn. three or four times a day. It is always to be given dissolved in half a glass of plain or carbonated water.

J. Z. T.—Tincture Quinoidine is made by dissolving 20 parts of Quinoidine in 170 parts of diluted alcohol and 10 parts of hydrochloric acid. The mixture is allowed to stand, and then filtered. The dose is from one to two teaspoonfuls.

J. Z. T.—Pyramidon, the chemical name for which is dimethylamidoantipyrine, is a derivative of antipyrine. It is a yellowish-white, tasteless, crystalline powder, soluble in 10 parts of water. Its effects are similar to those of antipyrine, but it is used in smaller doses than the latter drug. For the hectic fever of tubercular patients, the dose of 8 grains should not be exceeded.

J. Z. T.—Mixture Acida Halleri, of the German Pharmacopœia, practically corresponds to the U. S. P. aromatic sulphuric acid. It is directed to be made by mixing 1 part of sulphuric acid with 3 parts of alcohol. Aromatic sulphuric acid (U. S. P.)

contains, in addition, tincture of ginger and oil of cinnamon.

P. P. C.—A colorless or white Berberine Sulphate cannot be supplied, as the color of the preparation is inherent in it and cannot be removed without destroying the nature of the product. Perhaps you have in mind a salt of hydrastine, the *white* alkaloid of hydrastis. The hydrochlorate of this alkaloid—a white, water-soluble powder—is reputed to be a very efficacious remedy in the treatment of gonorrhea; the following formula is in vogue:

Hydrastine Hydrochlorate ..... 8 grn.  
Zinc Acetate ..... 8 grn.  
Glycerin ..... 4 dr.  
Distilled Water ..... to make 4 oz.

Inject several times daily.

Among the *newer* remedies that have proved efficacious in the disease in question, we would mention ichthyol, ichthargan (ichthyol-silver; contains 30 per cent. Ag.), largin (silver-protalbin, an organic compound of silver containing 11.1 per cent. Ag.), protargol and airol. The following formulas have been recommended:

Ichthyol ..... 90 min.  
Glycerin ..... 1 oz.  
Distilled Water ..... to make 8 oz.

Inject four or five times daily, retaining the fluid for several minutes.

Ichthargan ..... 1 to 4 grn.  
Glycerin ..... 4 dr.  
Distilled Water ..... to make 8 fl. oz.

Dispense in an amber bottle. Inject from two to six times a day, retaining the fluid for fifteen to thirty minutes each time.

Largin ..... 15 to 30 grn.  
Glycerin ..... 2 dr.  
Distilled Water ..... to make 6 oz.

Dispense in an amber bottle. Inject three times daily in the beginning, later on once a day; retain fluid half an hour if possible.

#### MERCK'S ARCHIVES:

It was with interest that I read your comment on eucaine-B in spinal anesthesia in the December issue. I quite agree with the editor where he says that the case reported as having occurred at the University Clinic of Bonn was one of infection. It is scarcely possible that one-sixth of a grain of eucaine could have furnished toxic symptoms as late as the tenth day. The rise of temperature is not uncommon after a spinal injection, and some irregularities of the pulse have been noted. In the case as reported there is no statement as to the duration of the temperature. In discussing the subject of spinal anesthesia, the writer has urged the use of eucaine-B in place of cocaine. Operators, so far, have clung with singular pertinacity to the most dangerous of local anesthetics. Those who have employed eucaine-B have given it in the same dose as that employed for cocaine—namely, about 15 minims of a 2-per cent. solution. This dose is much too small for eucaine. Upon my advice, Dr. Carl Anderson, of Chicago, used 15 minims of a 4-per cent. solution of eucaine-B, obtaining perfect anesthesia of the

lower extremities, which extended part way up the trunk, and lasted for several hours. The anesthesia was perfect and the patient exhibited no toxic symptoms. This, I believe, was the first time that eucaine-B was used successfully in spinal anesthesia. Dr. J. B. Murphy had previously employed it, but he only used 10 minims of a 2-per-cent. solution and obtained no results, though there were no untoward symptoms.

HAROLD N. MOYER, M.D.,  
103 State Street, Chicago, Ill.

#### MERCK'S ARCHIVES:

The December number contains an article on "Biniodide of Mercury in Diphtheria," which seems to me to be open to some frank criticism for the good of "therapeutic science." Here we have a disease which owes its high death-rate to the exhaustion of every vital organ by the action of a virulent toxin: this article recommends no less than five separate remedies, most of which are depressants, to be used all at the same time, at such frequent intervals that, day and night, there can be no question of any sleep for the unfortunate patient, and it is difficult to see what time there is left for giving nourishment, considering that the remedies are to be given every twenty minutes, every half hour, every hour, and every two hours. I humbly submit that this hypermedication is far worse than the attitude of the therapeutic nihilist, especially in such a disease, where one good dose of antitoxin has over and over again proved more efficacious than all the drugs in the materia medica.

ARTHUR G. MINSHALL, M.D.,  
Northampton, Mass.

#### MERCK'S ARCHIVES:

Your journal has for me a progressive interest. The editorial "Materia Medica and State Medical Boards" (November issue) contains truth that should be endorsed by every physician. You state that the present "condition of affairs gives legislatures and the general public the impression that in the treatment of the sick all so-called medical systems hold some truth which the others, through bigotry or perverseness, refuse to assimilate." Will any one question that this is not a fact? The public has attested its appreciation by a division of support. The profession is improving in this direction, but there is still enough bigotry and perverseness in the medical boards throughout this country to require the action of a howitzer at short range "to harmonize" some of them. Communities and legislatures need to be taught that there are important facts concerning drugs which all graduates should know. So keenly has this need been felt that certain colleges have instituted a chair to teach "physiological medicine."

Dr. H. C. Wood has called attention to the fact that the average medical board is more inclined to deal with fanciful hypothetical catch-questions, than with those "facts which are as much a part of fixed medical science as is anatomy." But there is another difficulty to be apprehended; we must go farther back for the fault. The State of New York, for example, has granted a charter to certain individuals which gives them, as a corporation, the power to grant diplomas, without teaching all the therapeutical facts that should be required for the title M.D.—just such facts as set forth in your editorial. Therefore these physicians cannot be examined in what the law has never required them to know. Fortunately, the colleges are rising to the necessities of a thorough

medical education. The truth is, there are no grounds for sectarianism in therapeutics or in the profession. There should be a general standard of excellence to attain a medical graduation. It should be the same in all colleges, and if a few wish, in addition, to confer the title of "a graduate in homeopathic medicine," it should be accepted and interpreted in the light of "special learning," which should enlarge every doctor's sphere of usefulness without objection.

With some magic wand to harmonize medical boards and more liberal education to dispel bigotry, a better day will surely dawn for medical science.

EDWIN W. PYLE, M.D.,  
Jersey City, N. J.

#### MERCK'S ARCHIVES:

I desire to reply to an article in the ARCHIVES on the treatment of diphtheria. No local treatment alone will prevent bad sequelæ in diphtheria. A saturated solution of chlorate of potassium, —one dram to two ounces of water,—with sixteen drops of subsulphate of iron added, given in dessertspoonful doses to adults and teaspoonful doses (undiluted) to children, every two hours, will prevent and has prevented any untoward symptoms or after-effects in this disease in thirty-seven years of my experience. Insufflating trypsaline in the nasal cavities and upon the tonsils, and wherever the membrane has formed, will, if applied every half hour, dissolve the membrane and keep it in abeyance. A gargle of subsulphate of iron, a dram to eight ounces of water, will also curdle the membrane if faithfully used, and clean it off with wonderful dispatch. Spraying with peroxide of hydrogen is valuable, but cannot be relied upon alone. It should be given internally and also applied locally to be effective.

The above brief summary of the treatment of this disease, if followed out carefully and explicitly by the reader, will, I am sure, prove a great boon in not only arresting the disease and producing a cure, but will prevent the terrible consequences that are otherwise liable to follow. I have no occasion to use antitoxin. I have only used it twice, and in one of the cases I feel it benefited the patient (an adult); in the other, a child, I did not see any benefit in that treatment, although the child recovered. I have never yet lost an adult in this disease, but cannot claim the same results in the treatment of children, although the constitutional remedies adopted, as mentioned above, have generally brought about a cure. Treating a case by the above method, I scarcely ever have a second case occur in the same family at the same time, and only where the cause of the malady is located in the dwelling of the occupants—such as where there are dead mice or rats or escaping sewer gas.

WM. SHAW STEWART, M.D.,  
1801 Arch Street, Philadelphia.

#### MERCK'S ARCHIVES:

On page 444 of your November issue the formula of Huchard's hemostatic pills is given as follows: Ergotin, quinine sulphate, powdered digitalis, extract hyoscyamus—of each, 30 grn.; divide into 20 pills, and take 5-8-10 daily.

This is probably an error.

J. B. M.  
San Francisco, Cal.

[The error occurred in the original article in the "Therapeutische Monatshefte," where the quantity of each ingredient was given as 2 grams. The correct formula is 30 grn. each for the first two ingredients and 3 grn. each for the last two.—EDITOR.]

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutica*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Pulmonary Tuberculosis

Guaiacol.....	4 dr.
Creosote.....	2 dr.
Cod-liver Oil.....	1 pint
Oil Cinnamon.....	2 dr.
Oil Bitter Orange.....	30 min.

or

Oil Bitter Almond..... 10 min.  
Teaspoonful three times a day for the first week, two teaspoonfuls during second week, three during third week, and four during fourth week. Continue latter dose if stomach remains unaffected, otherwise reduce to two teaspoonfuls three times a day.

For severe cough, give the following mixture:

Codeine.....	3 grn.
Dionin.....	6 grn.
Dilute Hydrocyanic Acid.....	1 dr.
Brandy.....	1 oz.
Extract Licorice.....	1 dr.
Syrup Wild Cherry.....to make	3 oz.

Shake well. Teaspoonful three or four times a day.

Dionin.....	5 grn.
Linseed Oil.....	3 oz.
Oil Eucalyptus.....	24 min.
Oil Cinnamon.....	2 dr.
Glycerin.....	5 dr.
Simple Syrup.....	1½ oz.
Water.....	5 oz.
Irish Moss.....	1 dr.

Make an emulsion, *lege artis*. Half to one tablespoonful three times a day.

Thiocol.....	6 grn.
Cocaine.....	12 grn.
Boric Acid.....	60 grn.

Use by insufflation. In laryngeal tuberculosis.  
—PROF. A. FASANO.

Creosote (Beechwood).....	2 dr.
Glycerin.....	1 oz.
Brandy.....	6 dr.
Tincture Gentian.....	} of each, 3 oz.
Comp. Tinct. Cinchona.....	

Teaspoonful four times a day after meals. Each time the mixture is repeated, a dram of creosote is added, until 1 oz. is prescribed. The patient thus commences with 2 minims per dose and reaches 8 minims.  
W. J. ROBINSON.

Creosote (Beechwood).....	1 dr.
Guaiacol.....	2 dr.
Emulsion Cod-liver Oil (50 p.c.).....	12 oz.
Syrup Hypophosphites (U. S. P.).....	4 oz.

Tablespoonful three times a day.

Thiocol (Guaiacol Sulphonate of Potassium).....	2 dr.
Syrup Orange.....	1 oz.
Peppermint Water.....	7 oz.

Tablespoonful three times a day.

Thiocol..... 2 dr.  
Divide into twenty-four capsules. One capsule four times a day.

Iodoform.....	24 grn.
Creosote.....	4 min.
Oil Eucalyptus.....	8 min.
Chloroform.....	48 min.
Alcohol.....	} of each, enough to
Ether.....	

make ½ fl. oz.

Ten to twenty drops on the sponge of a perforated zinc inhaler, to be worn for twenty minutes three times a day.  
—BRUNTON.

Iodoform.....	} of each, 1 grn.
Creosote.....	
Benzoin.....	
Balsam Tolu.....	

For one pill. Two to four pills a day.

—HUCHARD.

Arsenic Iodide.....	} of each, 1 grn.
Strychnine Sulphate.....	
Corrosive Mercur.Chlor.....	} of each, 2 dr.
Quinine Sulphate.....	
Iodoform.....	

Divide into 40 pills (or, better, capsules). One, three times a day, as a general tonic.

—MANN.

Guaiacol-Sulphonate of Potass.....	2½ to 4 dr.
Cod-liver Oil.....	4 oz.
Syrup Hypophosphites.....	2 oz.
White Wine.....	4 oz.
Yolks of Eggs.....	2

Oil Bitter Almond..... 4 to 8 drops  
Water.....to make 1 pint.

Tablespoonful three to six times a day. This is an excellent combination and, if properly prepared, is taken without the least repugnance. The effect on the cough, expectoration, and anorexia is quite remarkable in the great majority of patients.

Arsenous Acid.....	} of each, 1 grn.
Digitalin (Merck).....	

Make 30 pills. One after meals.

—D. E. HUGHES.

Morphine Sulphate.....	1 or 2 grn.
Spirit Chloroform.....	½ oz.
Syrup Wild Cherry.....	3 oz.

Teaspoonful every four hours.

—HARE.

Ichthyol.....	} of each, 4 dr.
Creosote Carbonate.....	
Glycerin.....	6 dr.
Peppermint Water.....	2½ dr.

Twenty drops, gradually increased to thirty drops, in wine or lemonade, three times a day, after meals.

—HUGO GOLDMANN.

Camphoric Acid..... 10 to 30 grn.  
Take about an hour before going to bed. (For night-sweats.)

Sodium Cacodylate.....	30 grn.
Rum.....	} of each, 5 dr.
Simple Syrup.....	
Water.....	2 oz.
Essence Spearmint.....	2 drops

Teaspoonful per dose.

—DANLOS.

Sodium Cacodylate.....	½ grn.
Ext. Gentian.....to make	1 pill

One, three times daily.

—DANLOS.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects.

### On the Selection of a Medical Journal.

—There is much truth in the claim that it is more difficult to get subscriptions for medical journals now than it was some years ago, and the reason assigned is that physicians' offices are so often visited by sample copies of various medical journals that the supply is adequate to meet the doctor's needs and time for this kind of reading. So it is—if it is immaterial to him whether he gets good, bad, or indifferent literature. The more limited a practitioner's time, the more essential is it that his reading should be wisely selected. A lot of sample copies of even the best periodicals, secured at irregular intervals, are not as valuable as the receipt of a single good publication at stated periods.

Each journal has its special characteristics, being largely the reflection of the editorial mind. It is a more or less consistent whole. Its various parts hang together and support one another. A journal of merit has a policy, a character, an individuality. To the editor, the various good medical journals of the country are distinct individualities, just as are their editors. One is the reflection of the other.

It is this peculiar individuality that the practitioner should secure. He should select the one or more journals which, in the aggregate, if there are several, meet the needs of his mind and method. The point of view of the journal one reads should harmonize with one's own, or be complementary to it. The doctor's medical journal is to him, in his work, what his wife should be to him in his life. They soothe, please and mold him to his own good and the benefit of those who meet him. The doctor who is content with sample copies is like the bachelor, wafted hither and thither, at intervals of greater or lesser length, by each successive breath of feminine fancy. He is nowhere, is nothing; a jelly back, a do nothing; a something, yet a nobody.

To the doctor who would reserve his fee, the regular visitation of a first-class medical journal is very necessary. To the man (or woman) sensible enough to realize this, we have this to suggest: Send for sample copies of some of what you think are the best medical journals. If you reside near a medical library, spend half a day, or several half days, there, looking them over. Then subscribe for what you like and believe will be of most service to you. Recollect that you are to get both what you like and need. Later experience may cause you to make changes. But get journals that are reliable. Be sure that they are carefully edited. An editor who will be slovenly in the typography of his journal is apt to be the same in making his selections from the original articles submitted to him, and in copying and abstracting from other publications.

Do not forget that the character or temperament of the journal you read regularly will mold you. Therefore be careful to select only such as will develop you upwards and straight, rather than downward and in an irregular direction. It is your teacher, your mentor, and requires the same care in selection that most men try to exercise in deciding upon the college they shall attend, or the occupation to which they shall devote themselves.

Another point, and we are done, though much more remains to be said. Be sure that your medical journal, or at least one of them, *deals with the common things and the little ones*. Of these does the major part of practice consist. Major operations, very rare cases, elaborate scientific studies, historical résumés, and the many other effusions useful in their way and to whom they more especially concern, are of no use to the average general practitioner, and never can be. Such of these things as are worth it can be condensed by editorial sifting, the gist only being given the general practitioner, with its source added, so that he can look up the original if he so desires. But the original articles, as well as editorials, of the general practitioner's medical journal should be terse, to the point, and relate to the work he does right along. That helps him help his patients, and that is what he is working and being paid for. Every number of such a journal should be worth to him the cost of a year's subscription. If it fails to meet this test, he has either made a poor selection or he does not profit by what he reads and neglects to apply its teaching.

Select a journal by this method, make use of its teachings, and both you and your patients will be gainers.

**Therapeutic Progress.**<sup>1</sup>—We are obliged to confess at the outset that scientific therapeutics is to-day far behind all other branches of medical science. The cause is not far to find. The almost farcical teaching of *materia medica* and therapeutics, even in our best medical schools, gives us every year thousands of men appallingly ignorant of the physical and therapeutic properties of our most common drugs, yet well versed in other branches.

Again, our progress has been retarded because of the great mass of comparatively worthless and poorly-understood drugs which compose a large part of our present Pharmacopœia. Of the thousand titles in that work, not one-tenth are remedies whose action and effects have been definitely worked out and placed on a scientific basis; and if this is so of official medicines, what can we say of the thousands of non-officials which are being so freely prescribed?

Of the thousand official titles not more than one-fifth will be encountered in checking over tens of thousands of prescriptions from every section of the country. Why, then, should we continue to carry this load?

Another serious bar to more rapid progress is the marked credulity which physicians have, in common with ordinary people, toward the most transparent therapeutic humbug, if its virtue be only impressed on them by the repeated iteration of skilful advertisers. The most irrational combinations, the alleged properties of which are weekly impressed on the physician's mind, soon efface the memory of slightly-taught official therapeutics.

If we turn to our works of reference, where the leaders of the profession are supposed to point out the way, how frequently do we come upon complicated prescriptions whose ingredients are known to the junior pharmacist to be incompatible, physiologically and chemically! And what a vast majority of the formulæ published in some of our medical journals are simply unutterable abominations, therapeutically and pharmaceutically!

Trousseau says: "The practice of medicine is

<sup>1</sup> *Med. Council*, Dec., 1900.

<sup>1</sup> J. Tracy Melvin in *Jour. Amer. Med. Assoc.*

the art of curing, and it is nothing more than that; to cure is its object, and all our plans must culminate in medico-surgical therapeutics." If this be so, and surely the great body of our profession will acknowledge the correctness of the definition, how far have we at times wandered from our true aim! How little space is taken up in our journals by contributions which directly attempt to increase our knowledge of the exact effect of remedies which we prescribe so freely?

**A Bishop's Opinion of Experiment in Medicine.**<sup>1</sup>—We learn from a report in the "Carlisle Journal" that at the annual meeting of the Branch of the Royal Society for the Prevention of Cruelty to Animals, held at Carlisle recently under the presidency of the Bishop of Barrow, Miss Lumsden, late Warden of University Hall, St. Andrews, who, it is understood, attended the meeting as the representative of the parent society, made an attack on the employment of experiments on animals in medical research. After alluding to such practices as the docking of horses' tails and the cutting of dogs' ears, she stated that vivisection was the darkest cruelty of all, and was proceeding to give at large her views on vivisection when she was interrupted by the chairman. Bishop Ware, in interposing, said great benefits had been done to mankind through experiments properly conducted. The society was not a society formed to take proceedings in regard to properly conducted scientific experiments, but to stop needless cruelty to animals. He held such a strong feeling in regard to the benefits to mankind due to vivisection properly conducted that he could not take the chair at a meeting where such views were expounded as they had heard.

**A Therapeutic Paradox.**<sup>2</sup>—Medicine, like other departments of human activity, is full of curious contradictions, which cause the thoughtful physician always to be chary of dogmatizing. Thus, the eating of indigestible food frequently at first produces constipation, but a little later diarrhea. It is customary to say that the preliminary constipation is due to irritation of the intestines, while the diarrhea is its secondary effect; yet we know that some irritating matters, when administered, promptly cause a diarrhea without any previous constipation. From observation of these apparently antipodal phenomena, and especially from our methods of their treatment, has arisen an analogous contradiction in therapeutics. Thus, in the case of an individual who habitually overeats or who eats improper food, there is usually found during the greater part of the time constipation. The even course of the constipation, however, is interrupted at intervals by sharp attacks of diarrhea, for which the physician is frequently asked to prescribe. As in most of these cases, bacterial infection of the retained intestinal contents is known to be a factor in the production of the succeeding diarrhea, it is now customary to administer an antiseptic, of which there are many good ones. The action of one of them is very interesting in this respect, although the same thing is true of others of the group. Bismuth salicylate is most efficient in combating gastric and intestinal infection, and in soothing the irritated mucous membrane of the alimentary canal. This drug thus relieves the diarrhea quite promptly, but a number of physicians and patients have observed that, if its use is persisted in, it

tends also to ameliorate the constipation. Of course it does this through its antiseptic action in preventing the formation of bacterial products, which primarily paralyze the bowel and cause the constipation. While this apparently paradoxical action of bismuth salicylate and other similar internal antiseptics at first glance appears to be merely one of the curiosities of medicine, it really is a practical fact in therapeutics well worth the careful attention of every physician who is not already aware of it. Many persons who suffer from constipation become discouraged with the difficulty of finding permanent relief and, by force of circumstances, drift into the "physic habit." They rarely consult their physicians, except for a severe intercurrent diarrhea. Then arises the opportunity for the physician to administer a remedy that is at once soothing and antiseptic, the patient being encouraged to continue its use after the diarrhea has ceased. The result in many instances will be at least a partial relief of the chronic constipation.

**The Dreams of the Blind.**—Dr. Wm. W. Ireland gives an interesting résumé of an article upon this subject by Friedrich Hitschmann. Mr. Hitschmann became blind in the third year of his life, but is still able to distinguish between light and darkness. He never dreams of seeing, and does not share the fancy of the poets that the spirit, freed during sleep from bodily restraint, can realize the gift of sight. He tells us that the blind, in general, have weaned themselves from their deficiency, and feel themselves in an accustomed and natural condition. They have not that painful longing for light which those who have all their senses sometimes poetically ascribe to them. Naturally their dreams are compounded of the other sensations, especially the impressions of hearing. The blind dream much of voices, by which the persons of their acquaintance are recognized, whereas the seeing often dream of faces and figures; sometimes animals, especially dogs and birds, seem to the sightless to have human voices, and to be gifted with speech. A blind man who traveled home once a year used to dream of the journey by rail. In this case the dreams were made up of the lumbering of the wheels, the whistle of the locomotive, the feeling of fresh air through the open windows, and the smell of food sold at the station.

Mr. Hitschmann tells us that, while the dream-world of the blind is poor in sensory images, it is rich in abstract phenomena. It is characteristic of their dreams that the sleeper often feels himself a spectator as if he witnessed a play at a theatre. He seems to witness novels, dramas, or philosophical lectures. It is supposed that these appear to come through the ear, for he tells us that he never dreams of handling a book for the blind, or of using his writing apparatus. Seeing people, however, seldom dream of reading and scarcely ever of writing.—*Exchange*.

**A Galactagogue.**<sup>1</sup>—More than forty years ago I learned from an old doctor that a hot poultice of castor oil leaves would increase the flow of milk in every case. They are to be boiled in water to a pulp, applied hot and changed as they cool. I have since often verified the value of this remedy. When pilocarpine nitrate is given at the same time, they will seldom fail to increase the flow; and in many cases will enable a mother to do what she never had done before, furnish enough milk for her babe.

<sup>1</sup> *British Med. Jour.*

<sup>2</sup> *Jour. Amer. Med. Assoc.*, Dec. 1, 1900.

<sup>1</sup> H. C. Barnard, in *Med. World*.

## Book Reviews

**THE MEDICAL EXAMINATION FOR LIFE INSURANCE AND ITS ASSOCIATED CLINICAL METHODS**, by Dr. Charles Lyman Greene. It is not often that the reviewer of the "Archives" feels inclined to and justified in the bestowal of unqualified praise and commendation upon a book. The volume with the above title offers the welcome opportunity. It is an excellent book from the first page to the last. Not only is it replete with interesting information, but that information is presented in such a forceful, interesting manner that the perusal of the book becomes a real pleasure. We cannot see how any physician in any way connected with life insurance can afford to be without the book; but not only for insurance examiners—for every practicing physician—the book possesses a profound interest. The chapters on physical diagnosis, illustrated with excellent original drawings, and the one on urine analysis are so well and forcefully written as to be alone worth the price of the book. We have not enough space to give a synopsis of the contents, but advise every physician to procure a copy of this unique work, which, as far as we know, is the only one of its kind. Of the mechanical execution of the work the publishers may justly feel proud. (Philadelphia: P. Blakiston's Son & Co. Price \$4 net.)

There is no scarcity of text-books on the practice of medicine, and no new text-book can, therefore, claim to fill a long-felt want; nor can it be strikingly original; a great portion of it will necessarily be a compilation. Still, not all text-books possess equal merits. Prof. Tyson's **PRACTICE OF MEDICINE** is a strictly orthodox and thoroughly satisfactory work. The entire domain of internal medicine is covered in a satisfactory and able manner, and no better text-book can be recommended for the student. That it would fully answer the purpose of the practitioner we doubt; and for this reason: When a physician consults a text-book on medicine it is not, as a rule, in order to be enlightened on the etiology or morbid anatomy of the disease, but to get some specific points on treatment, and in this he will be disappointed. The treatment is, as in all one-volume text-books, rather general; no prescriptions are given, while the newer remedies, even the most valuable ones, hardly receive any mention. The author is, throughout, very conservative and old-fashioned in his treatment. A few slight omissions may be noted. Myasthenia gravis is not treated at all. Dana's treatment of tic-douloureux, with large doses of strychnine, is not mentioned; locomotor ataxia is not found either in the text or in the index; it is treated under the name of tabes dorsalis, but it is an important enough designation to deserve place as a synonym, at least. But, still, these are minor points. As a whole the book is very good indeed, and especial praise is to be given to the section of the diseases of the nervous system. The historical introductory notices to each important chapter are useful and interesting. (Philadelphia: P. Blakiston's Son & Co. 2d ed. 127 illustrations, including colored plates. Price, \$5.50.)

In a recent issue of the "Archives" we reviewed the first three volumes for 1900 of **PROGRESSIVE MEDICINE: A QUARTERLY DIGEST OF ADVANCES, DISCOVERIES, AND IMPROVEMENTS IN THE MEDICAL AND SURGICAL SCIENCES**. The fourth volume, edited by Prof. Hobart Amory Hare and Dr. H.

R. M. Landis, is now before us, and the good words we had to say about the previous volumes are fully applicable to this one as well. The contents of the volume are as follows. Diseases of the digestive tract, the liver, pancreas, and peritoneum, by Max Einhorn; genito-urinary diseases and syphilis, by Wm. T. Belfield; fractures, dislocations, orthopedics, etc., by Joseph C. Bloodgood; diseases of the kidneys, by John Rose Bradford; physiology, by Albert P. Brubaker; hygiene, by Henry B. Baker, and practical therapeutic referendums, by E. O. Thornton. The last article, which, from its contents, naturally possesses a special interest for readers of the "Archives," is quite complete. Most of the drugs of recent introduction are concisely treated of, and the number of new remedies that have escaped the writer is but small. New uses of old drugs also find due mention, and, as a whole, the article is very satisfactory. We repeat that **PROGRESSIVE MEDICINE** would make a useful addition to any physician's library.

The revisers—or, rather, the authors—of the eighteenth edition of **KING'S AMERICAN DISPENSATORY** should feel proud of their work. "Well done, faithful workers!" is the exclamation that involuntarily escaped the lips of the reviewer, after a thorough and careful examination of this monumental work of 2,200 pages. This is practically a new book, and while it retains the name of "King's Dispensatory," Felter and Lloyd are to be regarded as the real authors, because but little of the old material could be utilized in an unrevised form for the present edition. Almost every page shows painstaking labor and careful research, and this is especially true of the older remedies and of botanical drugs. The newer remedies have not received adequate treatment. Besides treating of all the drugs used in eclectic medicine, this eclectic dispensatory considers all the drugs and preparations official in the U. S. P., most of those of the National Formulary, and many of the British Pharmacopœia, and we dare say that as a dispensatory the work before us would prove as useful to our regular practitioners and pharmacists as one of the orthodox dispensaries. But aside from the amount of information it contains, the work before us possesses, in our eyes, another element of interest. It shows as plainly as any signs can show that the "world do move." It shows that the antagonism between the various "schools" of medicine is gradually dying out, that the chasm is being bridged over, and that it will not be so very long before the sectarians will enter the fold of regular scientific medicine. That the regular profession will open the doors cheerfully, frankly and generously acknowledging the good—be it ever so little—in the other schools, there can be no question. Signs to this effect are a-plenty. What particularly gave rise to this thought is the article on mercury in the present edition of the dispensatory. In the seventeenth edition all the preparations of mercury are placed in the appendix among the "obsolescent and objectionable" medicines: in this edition they are accorded place in the regular alphabetical order, and they thus become next-door neighbors of one of the greatest friends of the eclectic physician; namely, hydrastis. The entire tone of the article is changed, and it is put on a more scientific basis. Care is also taken to give as little offense as possible. For instance, in the seventeenth edition, Paracelsus is referred to as "that notorious quack of former years, Paracelsus" (p. 1,279); in this edition the sentence is changed to "the notorious Paracelsus." As will



have been noted, we have everything to praise and but little to criticize in this dispensatory. (Cincinnati: The Ohio Valley Co. Two volume edition, royal octavo. Cloth, \$4.50 per volume, post-paid. Sheep, \$5.00 per volume, post-paid.)

GALLSTONES AND THEIR TREATMENT is ably discussed by Dr. Johannes Müller in the "Würzburger Abhandlungen aus dem Gesamtgebiet der Praktischen Medizin." While nothing new is presented, the general practitioner may get a useful hint here and there concerning the treatment of this distressing and, at times, dangerous malady. (Würzburg: A. Stuber's Verlag.)

The fact that within ten months a second edition of THORINGTON'S REFRACTION AND HOW TO REFRACT was called for is presumptive evidence of the intrinsic value of the book. And, indeed, on examination we find that the subject is handled by the author in a masterly manner. The underlying principles of refraction are made as clear as the subject will permit, and though we do not believe that one who has no idea of elementary physics or physical optics will gain a thorough comprehension of the subject of refraction from this, or from any other book, we nevertheless welcome the attempt to diffuse knowledge on a branch of medicine which to many physicians is an absolute *terra incognita*—because entirely neglected in most of our medical colleges. The mechanical execution of the book is most excellent. The text and illustrations of this second edition are identically the same as those in the first edition. (Philadelphia: P. Blakiston's Son & Co.)

A fairly satisfactory résumé of THE TREATMENT OF FRACTURES is presented by Dr. W. L. Estes in a book of a little over 200 pages. While drawing freely upon modern authorities, the author has laid special stress upon such measures and methods as have proved particularly valuable in his fifteen years' personal experience as chief surgeon of a hospital where cases of fractures are very numerous. As far as mechanical execution is concerned, the book does not come up to the standard, in these days of luxurious book-making. (International Journal of Surgery Co., 100 William street, New York.)

Alienists and pedagogues will find a good deal of interest and suggestiveness in DIE BEHANDLUNG IDIOTISCHER UND IMBECILLER KINDER IN AERZTLICHER UND PAEDAGOGISCHER BEZIEHUNG (The Treatment of Idiotic and Imbecile Children from a Medical and Pedagogic Point of View), a brochure of a hundred pages, by Prof. Wilhelm Weygandt, M.D., Ph.D., of Würzburg. The little work can also be recommended to parents who are unfortunate enough to have intellectually defective children. (Würzburg: A. Stuber's Verlag.)

That there is a great demand for quiz-compendis is well known, but the reviewer has ever refused to accept the large demand for a thing as *ipso facto* evidence of the "goodness" of the thing. In the case of quiz-compendis it is still an open question whether they are to be regarded as a commendable addition to our medical literature or, simply, as a necessary evil. It can hardly be denied, though, that if used properly these compendis do serve a useful purpose. As we understand it, their proper use is not as a text-book, but as a review of the subject after the more voluminous text-books have been mastered. Among

quiz-compendis, Blakiston's series may be considered the very best, and SCHAMBERG'S DISEASES OF THE SKIN forms a satisfactory compendium on dermatology. We are glad to see that the silly system of questions and answers finds no place in this compend. (Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street.)

The Causes and Treatment of the Falling Out of the Hair (DES HAARSCHWUNDS URSACHEN UND BEHANDLUNG) is the subject of one of Dr. Jessner's dermatologic lectures for practitioners. The subject is treated concisely and yet thoroughly, and many useful formulæ are given. (Würzburg: A. Stuber's Verlag.)

DIE BLUTIGE OPERATION DER ANGEBORENEN HUFTGELENKSLUXATION, by Prof. A. Hoffa, forms the subject of No. 3, Vol. 1., of the "Würzburger Abhandlungen," the first two numbers of which we reviewed in previous issues of the "Archives." The monograph contains seven illustrations, six of which are skiagrams. The author naturally believes that the proper method of treatment of congenital dislocation of the hip is the bloody operation, as elaborated by himself and Lorenz—the so-called Hoffa-Lorenz operation.

Part VI. of the LEHRBUCH DER HISTOLOGIE UND DER MIKROSCOPISCHEN ANATOMIE, by Dr. Ladislaus Szymonowicz, which has just been issued, completes that valuable work, which has been already noticed in these columns. The present part treats of the hair, nails, skin, eyes, ears, and nose. It also contains a chapter on the general technique of microscopy, detailing approved methods of fixing, staining, etc., as well as a chapter on special methods. The whole is supplemented by an exceedingly comprehensive index of the literature on the cellular structure of all the organs, as well as complete indexes of authors and subjects. The entire work is certainly a most important contribution to histological literature, the numerous, well-drawn cuts, some beautifully colored, adding special value. The author and the publisher have united to present a most creditable volume, which should possess the greatest interest for every student of histology and microscopical anatomy. (Würzburg: A. Stuber's Verlag. Price—entire work—15 marks.)

#### Publications Received

- The Good Nurse. By James H. McBride, M.D. Reprinted from the "Chicago Medical Recorder," September, 1900.
- Hygiene in the Treatment of Dyspepsia. Brunswick Pharmacal Company, New Brunswick, N. J.
- Sixteenth Annual Report of the New York Post-Graduate Hospital for the year ending October 1, 1900.
- Annual Report of the New England Hospital for Women and Children.
- An Equation of Responsibility. By Edwin W. Pyle, M.D.
- Abstracts from the Proceedings of the United States Pharmacopoeial Convention, May, 1900.
- The Modern Treatment of Tuberculosis. By M. J. Brooks, M.D. Reprinted from the "New York Medical Record," October 13, 1900.
- The Need of State Endowment for the Advancement of Medical Science. By D. B. St. John Roosa. Reprinted from "The International Monthly."
- Tuberculosis and Tuberculin. By Dr. Brush. Mount Vernon, N. Y.

# MERCK'S ARCHIVES

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### Caution Needed in Prescribing Remedies of the Newer Materia Medica

WITH the ever-successive steps of progress new adjustments become necessary in order to avoid the dangers that necessarily arise. There are pitfalls to every pioneer effort in therapeutics as dangerous as the more material ones that confront the traveler in countries but little explored. Progress has its dangers as well as its benefits, and it is but the part of wisdom to expect the danger and be prepared for it. No remedy should be deemed harmless that is therapeutically potent, and in the direct degree of its potency should our suspicions be aroused regarding its possible dangers. A prescription was recently handed to a Brooklyn pharmacist to be compounded in which the doctor had ordered full doses of codeine and of heroin. The prescriber probably reasoned that these drugs acted synergistically, as aconite and antipyrine might be expected to do. He had been accustomed all his life to prescribing two or more pain-relievers like belladonna and opium, two or more antipyretics like sweet spirit of niter and aconite, cathartics like aloin and rhubarb, expectorants like ipecac and squill, and that without reducing the dose of either in the compound from that in which he would be likely to prescribe one of them alone. He had been taught that synergists, as a rule, only fortify each other in the one direction in which he seeks to have them act. He

has seen that atropine, while increasing the pain-relieving qualities of morphine, actually lessens its toxic qualities. So great is this power that atropine has become an acknowledged antidote to morphine in cases of poisoning by the latter. Lately, indeed, a case has been reported of a man sleeping off an enormous dose of a mixture of morphine and atropine, taken with suicidal intent. There was enough of either alkaloid to have killed several persons had they been administered separately. Being true synergists, they did not fortify each other toxically, but on the contrary neutralized each other's toxic power. Had the physician to whom reference is made known the chemical structures of heroin and of codeine he would have hesitated in putting them together in the way he did.

Here we have a type of incompatibility peculiar to a large and growing number of the newer remedies, that has never yet been specifically pointed out by any medical journal, but which should be referred to warningly. To prescribe together many of the newer remedies in full doses of each, may mean unwittingly to double the maximum dose, and thus possibly lead to death. All the remedies to which we refer belong to a few groups or classes, the common chemical nucleus of which in each class is identical. The prescriber practically prescribes a double dose of the same thing when he or-

ders two of them in full doses in the same prescription. The substances referred to are all distinct, definite chemicals, and in no sense mixtures; but they break up into their constituent radicals in the body and set free exactly the same active agents. In some cases this fact is well recognized, but not in all; hence the danger. Every prescriber of salol probably knows that in the system it develops carbolic acid and salicylic acid, so that he would expect to get a heightened effect of salicylic acid when both this acid and the salol are prescribed together. How many, however, know that morphine, codeine, heroin, and dionin behave in a somewhat analogous manner, and should therefore never be prescribed together in doses the total of which is much, if any, larger than the full dose of one alone? No one thinks of prescribing sulphate of morphine, hydrochlorate of morphine, and acetate of morphine together in any other manner than this. Indeed, the preparations are seldom prescribed together at all. This is due to the fact that practical identity of therapeutic results is produced by them. In the newer remedies such nearly exact identity does not exist. They produce similar but not the same results. Their molecules are modified more profoundly than in the mere production of different salts with different acids. This depth of alteration does not, however, prevent the exact identity of action belonging to the organic radicals or ions common to each.

The following nine classes of new organic remedies come under the rule regarding dosage we have here formulated; viz., that when prescribing two or more of the same class in one prescription, the aggregate of the doses should not exceed the maximum dose of any single one of that group: (1) Resorcin, betol, naphthol, phenol, salol, creosote, guaiacol and thiocol; (2) acetanilid, phenacetin, citrophen, kryofine, lactophenin, phenocoll hydrochlorate, and triphenin; (3) trional and sulfonal; (4) chloral, uralium, chloralamide, chloralose, and dormiol; (5) morphine, codeine, dionin, apomorphine, and heroin; (6) euphorin, neurodin, and thermodin; (7) antipyrine, ferropyrine, and salipyrine; (8) beta-naphthol, benzonaphthol,

betol, and orphol; (9) salicylic acid, wintergreen oil, aspirin, and salol.

While the danger here referred to is largely attached to the prescribing of acetanilid and phenacetin together in full doses of each with the hope of getting a combined synergistic effect, this particular form of danger is less likely to occur in the prescribing of antipyrine and acetanilid or of antipyrine and phenacetin, because their chemical structures are less nearly akin. The rule specifically applies to those within the same group. As a large number of the ready-made medicines on the market contain at least one member of one of the groups mentioned above, great caution should be taken by physicians in prescribing with them any medicaments having an action identical with that ingredient; the doses should be proportionately reduced. It is impossible to guard against danger without such a precaution, in the absence of definite information concerning the true composition of ready-made mixtures. To attempt to give synergists with secretly prepared remedies is a positive menace to patients; it is impossible to predict how serious the consequences may be. Indeed, in the prescribing of such remedies one can never know what other form of incompatibility may arise. Something in the secret preparation may react chemically with the other ingredients of the prescription and set free a new, dangerously toxic body. Alkaline substances of the secret compound may neutralize and render useless an acid which the prescriber designed to remain free and active. Acids present may, on the other hand, neutralize alkalies needed by the patient in an unneutralized condition. Should injury occur to patients under such conditions, it is difficult to see how the fact could be discovered, as the disease would likely be credited with the newly developed symptoms.

May not many such cases occur? Who knows? Druggists are often put to their wits' ends by the formation of precipitates or unsightly mixtures due to the presence of secret preparations in prescriptions they are called upon to compound. Of course they are helpless under such circumstances.

[Written for *Mearck's Archives*]**GUAIACOL AND ITS THERAPEUTIC USES**

By Chas. J. Whalen, M.D., LL.B.,

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Kush Medical College, Chicago, Ill.

CREOSOTE is a complex substance containing various constituents, of which guaiacol,  $C_6H_5 \left\{ \begin{array}{l} OH \\ OCH_3 \end{array} \right.$ , is the most important, 60 to 90 per cent. of beechwood creosote consisting of this ether. Guaiacol is a colorless liquid, with an aromatic smell, slightly soluble in water, readily so in alcohol and fixed oils. The statements made by Sommerbrodt and Fraenkel, as to the benefits derived from the administration of creosote in phthisis, led Sahli to try guaiacol, with advantage. Sahli prescribed it thus:

Guaiacol.....15 to 30 min.  
Distilled Water.....6 oz.  
Alcohol.....6 dr.

A teaspoonful to a tablespoonful in water two or three times daily, after food. The solution should be kept in a colored bottle.

Horner<sup>1</sup> has used guaiacol for a number of years in the treatment of pulmonary tuberculosis with remarkably good results. The author observed no unpleasant symptoms follow the use of guaiacol, and most of his patients took it without difficulty. Dr. Bourget<sup>2</sup> treated phthisis with creosote for several years, but now prefers guaiacol as less irritating to the stomach, and gives it in the following form:

Guaiacol.....2 dr.  
Tinct. Cinchona.....6 dr.  
Malaga Wine.....2 pints

One tablespoonful, gradually increased to three, to be taken at every meal.

In winter he combines it thus:

Guaiacol.....40 min.  
Cod-liver Oil.....6 oz

A tablespoonful at each meal.

For patients who cannot take the above, the following enema is used:

Guaiacol.....30 min.  
Almond Oil.....5 dr.  
Powd. Acacia.....2½ dr.  
Water.....2 pints

An emulsion, enough for four enemas.

The patient is also rubbed at bedtime, with a mixture of creosote, 5 drams, and of cod-liver oil, 2 oz.

Dr. G. J. Karpoff<sup>3</sup> used creosote and guaiacol in thirty-one cases, in the form of a mixture with alcohol, or as drops in the proportion of 1 of creosote and guaiacol to 2 of tincture of gentian, or in pill, or by inhalation, in doses varying from 3 Gm. (45 min.) daily to 30 Gm., and even up to 60 Gm. He finds that both these remedies lessen or remove cough and expectoration, increase appetite and weight, and improve

the general health; while bacilli become fewer or even disappear, and improvement takes place in physical signs; that, likewise these medicants do most good in uncomplicated phthisis. Prolonged treatment is more important than steady increase in dose; and the largest daily dose which can be given without ill-effect is from 8 to 12 Gm. Guaiacol is to be preferred to creosote as chemically pure and constant.

Prof. Picot,<sup>4</sup> in treating phthisis, used a solution of guaiacol and iodoform in sterilized oil and vaselin. Each cubic centimeter (15 min.) of the fluid contains 1 centigram ( $\frac{1}{10}$  grn.) of iodoform and 5 centigrams ( $\frac{1}{20}$  grn.) of guaiacol, and the dose was increased from 1 to 3 Cc. (15 to 45 min.). The injections were made in the supraspinous fossæ, and no local trouble was met with. The presence of iodine in the urine, and also in one case in the lungs, proved the absorption of the fluid. Picot concludes from the treatment that the injections improve the general condition, increase the body weight, and lessen cough and expectoration. In second-stage cases, cough, expectoration, fever, and night-sweats disappear.

Poggi,<sup>5</sup> after observing the remarkable therapeutic effects of this substance, concludes: (1) Guaiacol, administered by the alimentary tract, is only partly absorbed. (2) It is more readily absorbed in healthy than in sick persons. (3) For its absorption, it is sufficient to give it in daily doses of 0.5 Gm. (8 min.). (4) Administered in such doses, it does not cause nausea and is well borne by patients. (5) Guaiacol is not eliminated as such by the urine, but in the form of a body giving the reaction of phenol.

D. M. Reese<sup>6</sup> reports the observations of 101 cases of pulmonary tuberculosis, in Prof. Osler's clinic, treated with guaiacol. The drug was prescribed as follows: One minim, three times daily (with sufficient alcohol for solution and 2 drams of compound tincture of gentian), increased every fourth day, until the quantity taken was from 10 to 15 minims. Reese concludes from his observations, that guaiacol has no definite effect upon the temperature, pulse or respiration; nor did it seem to check sweats. In the majority of instances, however, cough and sputum lessened. In a few cases, the physical signs improved; but there was no evidence that the remedy had special influence upon the bacilli. In early cases the general nutrition was benefited and the appetite increased. In no single instance did it seem to interfere with digestion. Bard<sup>7</sup> reports four cases

of tubercular disease. Local application of guaiacol caused a marked reduction of the temperature; appetite returned and complete cure resulted in short time. Sciolla<sup>8</sup> treated tuberculosis with local application of guaiacol, consisting of from  $\frac{1}{2}$  to  $2\frac{1}{2}$  dr., applied to the extremities, back, and abdomen, and covered this with cotton and gutta-percha. The action of the drug was manifested in fifteen minutes. Robillard,<sup>9</sup> of Lille, has made local applications of guaiacol in cases of febrile tuberculosis and obtained good results.

Guinard<sup>10</sup> is of the opinion that guaiacol applied externally acts by influencing the peripheral ends of nerves, and through them the thermogenic center. The presence of guaiacol in the urine is attributed to the absorption of the vapors through the respiratory organs. The influence of guaiacol is chiefly seen in febrile conditions.

Moreau,<sup>11</sup> of Toulouse, successfully treated lupus and other tuberculous affections of the skin by subcutaneous injections of a mixture of guaiacol and thymol, or guaiacol and aristol. The former was used in twenty-one cases, the latter in fourteen. The effects of both preparations are alike, but the one containing aristol causes more pain than the other. The mixture of guaiacol and thymol is therefore to be preferred. The formula is as follows: Thymol, 30 grn.; guaiacol, sterilized olive oil, of each, 12 dr. The injections are made twice a week, beginning with an injection of 15 min. of the solution and gradually increasing the dose, till after six injections a dose of 45 min. is reached. The injections cause sharp pain in the head and shoulder, almost always shooting down the arm and causing paresis, lasting a minute or two. Local reaction is very pronounced, but after the sixth or seventh injection, there is a marked tendency to cicatrization; the ulcerated glands heal rapidly. In addition to this treatment, Moreau used local treatment, consisting in the application to the diseased patches of a very fine thermocautery point.

Paul Binet<sup>12</sup> observed with regard to pulmonary elimination of guaiacol, that when ingested in toxic quantities the drug was slightly thrown out by the expired air. Small amounts of the drug, however, were met with in the lung-tissue.

Casavovici and Miron Sigalea<sup>13</sup> used guaiacol combined with tincture of iodine in the treatment of pleurisy. The chest was painted every night with an application, consisting of tincture of iodine, 385 grn., and guaiacol, 75 grn. This was followed by a fall in temperature, profuse perspiration, diuresis, and resorption of the fluid.

Thayer<sup>14</sup> is of the opinion that guaiacol applied externally—in  $\frac{1}{2}$  dram doses—is readily absorbed, and that the temperature is reduced, but says that, owing to the weakening effects of its continued use and disagreeable effects of its application, its use as an antipyretic will be very limited. C. A. Dana<sup>15</sup> says that guaiacol has more effect in reducing temperature about the beginning than toward the end of the acute fever. Da Costa<sup>16</sup> relates a case of typhoid fever treated with guaiacol. Temperature fell from  $105.4^{\circ}$  to  $98.6^{\circ}$  F. in three and one-half hours without any disturbance of the circulatory or nervous system. A reduction of temperature occurred each time that it was used. The author thinks that the antipyretic effect is slower but more permanent than that of the bath. Stolzenburg<sup>17</sup> opposes guaiacol, as causing severe sweating and rigors, although it reduces the temperature and he thinks the influence on the disease is not lasting.

Dr. Chas. C. Allison,<sup>18</sup> in the treatment of fistula in phthisical patients, used guaiacol in expressed oil of almond, with good effects.

Linossier and Lannois<sup>19</sup> state that after painting the skin with 30 min. of guaiacol, elimination by the kidney is manifested in a quarter of an hour; the proportion in the urine is greatest in from one and a half to four hours after. It decreases rapidly in six or seven hours, and in twenty-four hours there is no further trace in the urine. It is necessary in external application of the drug to cover the painted surface with an impermeable layer of taffeta. Balzar and Lacour<sup>20</sup> recommend an ointment of 2 to 5 parts of guaiacol and 30 of vaselin, in the treatment of epididymitis. They explain the good effects by local action exercised upon the cutaneous nerve endings, and the reflex-action upon the cord and testicle, rather than by the absorption of the drug.

Friedenwald and Hayden<sup>21</sup> recommend guaiacol as a powerful local antipyretic, causing a fall in temperature accompanied by profuse diaphoresis. They obtained good effects from 30 to 50 drops. Carter<sup>22</sup> reports that guaiacol applied locally is a valuable antipyretic; that its diaphoretic action may also be useful in some pyretic conditions, the sweating produced being copious; the drug increases the urinary secretion with the fall of temperature, and the pulse and respiration-rates decrease at the same time. It is found in the urine fifteen minutes after its local application. The drug is applied pure, by rubbing it into the axilla, 20 to 30 minims being the quantity recommended to be used. The application pro-

duces severe smarting and burning, and after its being used for several successive days it produces a little superficial inflammation.

Stourbe<sup>23</sup> states that pure guaiacol passes rapidly into the urine, while after the application of a mixture with glycerin it appears much more slowly. Almond-oil interferes much less with absorption than glycerin.

Chateaubourg<sup>24</sup> reports five cases of pertussis successfully treated by subcutaneous injections of 40 minims of a 10 per cent. solution of guaiacol and eucalyptol in sterilized oil.

Clemens<sup>25</sup> advocates guaiacol in the treatment of diabetes and polyuria. He administered 3-6-10 drops of pure guaiacol in a tablespoonful of milk or cod-liver oil, three times daily, with the result that after eight days the urine showed very considerable reductions of sugar; in some, sugar was present in only small quantities; in others it had disappeared. After three or four weeks some sweet foods were administered without increasing the amount of sugar in the urine. The associated polyuria was most remarkably reduced; in some cases, to one-half within a week after the administration of the drug. The general condition improved in all cases, and the remedy was well tolerated. Bosc<sup>26</sup> refers to the antipyretic action of guaiacol used in treating acute pulmonary tuberculosis in a woman aged thirty-three. When admitted to the hospital there was wasting, anemia, prostration, and slight diarrhea. The pulse was 120 to 130, and the temperature was fluctuating. Thirty minims of guaiacol in an equal amount of almond oil were applied to the back of the hands. After twenty-four hours the temperature had fallen  $5\frac{1}{2}^{\circ}$  F., the dyspnea, cough, and sputum were diminished, and the general condition was relieved. Guaiacol was further applied, and a fortnight later the patient was able to get up. Appetite was increased, she gained in flesh, and there was no cough. The effect on the temperature and the general condition were marked and lasting. Roudot<sup>27</sup> in the course of the same discussion, stated that, applied to the skin, guaiacol causes lowering of the temperature with profuse sweating, these two effects not always being of equal intensity. It sometimes happens that two or three hours after the temperature has begun to fall, it rises again to a high level; this is a reactional pyrexia which must be taken into account.

Brill<sup>28</sup> investigated in Unverricht's clinic, the effects of external application of guaiacol,

and concluded that doses of 23 to 45 min. are efficient as an antipyretic, but that the untoward symptoms caused by such doses are such as to render its use undesirable. Kohos<sup>29</sup> advises external application of guaiacol over the spleen in intermittent fever where quinine is not well borne, or as an adjunct to the latter drug. S. T. Bartoszewicz,<sup>30</sup> of Kharkov, used guaiacol in 12 febrile cases—(4 phthisis, 2 pleurisy, 2 typhoid, 1 pneumonia, 1 peliosis rheumatica, 2 intermittent)—the number of experiments amounting to 65. Only in 5 of these experiments were the results *nil*, and in 9 the temperature subsequently rose up to the primary height. The greatest effects took place in phthisis. Caporali<sup>31</sup> believes that external application of guaiacol increases the utilization of albuminoids by the organism and absorption of fat, and diminishes oxidation. During a discussion before the Paris Society of Therapeutics, on the external application of guaiacol in pleuritic effusions and scarlatinal nephritis, Miron Sigalea,<sup>32</sup> who was one of the originators of this method of treatment, stated that he had never observed any lowering of the temperature, rendering collapse imminent, as reported by some physicians. Grellety and Ferrand declared that caution was very necessary lest collapse be produced.

Kobert<sup>34</sup> states that after 15 minim doses of guaiacol, slight appearances of poisoning may supervene. These are characterized by a burning feeling in the stomach, nausea, etc.

Pietro Pucci<sup>35</sup> reports a case of repeated attacks of ague, in a man sixty years old. Both testicles were suddenly inflamed, and malarial fever followed. Sulphate of quinine, given for a week, and belladonna, were applied to the testicles without any effect. An ointment composed of  $\frac{1}{2}$  dram of guaiacol and 5 drams of vaselin, applied to the scrotum three times daily, produced very good effects. Fever was subdued at once and the orchitis was entirely cured in a week. Darbouet<sup>36</sup> advises guaiacol in pultaceous angina, phlegmonous tonsillitis, etc.: equal parts of glycerin and guaiacol for adults, 2 parts of glycerin and 1 of guaiacol for children. Tavitian<sup>37</sup> recommends guaiacol in gonorrheal orchitis. He applied the remedy to the groin and inner aspect of the thigh, and his ointment was made of guaiacol, 48 min.; vaselin, up to 1 oz. J. M. Anders<sup>38</sup> states that aside from guaiacol being a powerful antipyretic when applied to the skin, it relieves pain wonderfully. He observed its analgesic effects in the treatment of gastralgia.

when it decidedly allayed the irritability of the nerve terminations. The author used guaiacol in sciatica and intercostal neuralgias; he reports eight cases (3 supra-orbital neuralgia, 2 sciatica, 2 intercostal neuralgia, 1 neuralgia of the anterior crural), and says in all instances excellent effects were obtained.

Carpenter, of Pottsville, used guaiacol in an epidemic of typhoid fever, with good results in reducing temperature. Twenty drops were applied to the abdomen, which generally produced profuse sweating, after which the patient was enveloped in blankets to avoid chills or severe collapse. Lucas Championnière<sup>39</sup> uses for local anesthesia a 20 per cent. solution of guaiacol in sterilized olive oil. Laborde attributes the anesthesia to the vaso-constrictor action of the guaiacol. Ferrand,<sup>40</sup> who has used guaiacol as a paint, finds it analgesic, but cautions against using it, as it may cause collapse and hypothermia. Montausery<sup>41</sup> cured nineteen successive cases of typhoid fever by guaiacol internally and externally, and an occasional  $\frac{1}{10}$  grn. of calomel three or four times daily until slight purgation took place. The guaiacol was given in from  $\frac{1}{2}$  to  $1\frac{1}{2}$  drop doses every two hours, according to the tolerance of the patient. The temperature was controlled by sponging and by the external application of guaiacol, which lowered the temperature in about thirty minutes. The drug was applied over the abdomen, being slowly dropped on to it, carefully rubbed in, and covered with oiled silk.

Larro y Cerezo<sup>42</sup> used guaiacol externally in many different conditions, including some of high temperature. The effect has been to reduce the temperature by  $3.6^{\circ}$  to  $5.4^{\circ}$  F. within half an hour or so. In one case of typhoid the rapid reduction of temperature was followed by alarming symptoms of collapse. In this case 23 min. of the medicament had been painted on the skin of the popliteal space and the front of the knee. The author concludes that guaiacol suspended in tincture of iodine may be applied externally to the thorax as a revulsive in chronic broncho-pneumonia and as a means of promoting the absorption of pleuritic effusion. In anasarca from anuria due to scarlatinal nephritis, the same mixture may be painted on the lumbar region. As a local anesthetic, guaiacol is less dangerous than cocaine. Applied as an embrocation to the skin, the drug is a useful antipyretic in tuberculosis, typhoid fever, etc. Baird<sup>43</sup> opposes external applications of guaiacol, and believes it dangerous, because of the sudden fall of temperature and

the nervous depression produced by repeated applications. He thinks the method should not be employed in typhoid fever because of its long duration, but believes it very beneficial in erysipelas and pneumonia. Tuttle<sup>44</sup> applied guaiacol, locally, in cases of swollen testicle. About 10 min. of the drug were painted along the line of the cord and the upper part of the scrotum, which was subsequently left uncovered for half an hour; the scrotum was then drawn upwards on the abdomen, covered with a layer of flannel, on which was placed a rubber bag filled with water as hot as the patient could stand. At bedtime an ointment of 25 per cent. ichthyol in wool-fat was applied. Seven cases were thus treated and in no one instance did the application have to be made more than twice, and these never failed to relieve the pain within two hours.

McTaggart<sup>45</sup> reports four cases of phthisis treated by intrapulmonary injection of ichthyol into active tubercular lesions, and the administration, either hypodermically or by the mouth, of guaiacol.

Bellencoutre<sup>47</sup> recommends guaiacol as much superior to cocaine in benumbing sensation, as a local anesthetic in ocular operation. He used a solution of 1 part of pure guaiacol to 15 parts of sterilized olive oil; anesthesia appeared eight or ten minutes after the application, and continued twenty-five to thirty minutes. He considers 2 or 3 drops sufficient for most operations. Colin<sup>48</sup> recommends carbonate of guaiacol, a 20 per cent. solution in olive oil, in all forms of cystitis, but especially in the tuberculous variety. He advocates the use of 15 to 30 min. once or twice daily, and believes that 1 per cent. of iodoform added to it increases the efficiency. König,<sup>49</sup> of Pittsburg, recommends guaiacol internally as an antiseptic in the typhoid fever of children. He states that under this treatment intestinal antiseptics is evidenced by the slight degree of tympanites, absence of sordes, and especially by the character of stools.

Sabbatane<sup>50</sup> paints the following solution upon painful spots: Menthol and guaiacol, 15 grn. each; absolute alcohol, 5 drams. Maldarescu<sup>51</sup> used applications of guaiacol to the posterior surface of the thorax, corresponding to the part of the lung which is involved. The temperature was reduced; cough diminished; expectoration made easier, and the tongue became moist. In his report of 101 cases, 83 recovered and 18 died. Coghill<sup>52</sup> reports a case of acute pulmonary tuberculosis treated by Schetelig's method of giving pure guaiacol subcutaneously, in doses of 1 to 15 min. at four hours' inter-

val. The temperature was reduced from 104° to normal. Newcomb<sup>53</sup> states that a 5 per cent. solution upon a pledget of cotton may be applied to the nose with complete anesthesia, and that it may be used in the ear, when performing paracentesis. He reports excellent results from the treatment in thirty-six cases. F. C. Simpson<sup>54</sup> recommends guaiacol and guaiacol carbonate for gastric and intestinal dyspepsia. Solis-Cohen<sup>55</sup> advocates guaiacol, 10 parts; menthol, 1; olive oil, 10, as a good solution for internal and local application.

Ingals<sup>56</sup> advocates the use of guaiacol and creosote carbonate internally, with phenic and lactic acids injected into the suppurating glands. He related the case of a man, aged thirty-three, who developed an adenitis during treatment for phthisis; four injections of the acids within nine weeks, after aspirating the abscesses, caused complete healing.

Laurens<sup>57</sup> recommends the use of guaiacol, as a 10 per cent. solution, for operations on the tympanic membrane, on the ground that a more perfect anesthesia can be obtained than by cocaine. He makes three applications at intervals of five minutes, and perfect anesthesia is said to be obtained at the end of twenty minutes. Gerondi<sup>58</sup> used an alcoholic solution of guaiacol (guaiacol, 30 min.; alcohol and distilled water, of each, 4 drams, at 90°, with a few drops of oil of bergamot or some vanillin to disguise the smell). He succeeded with this solution whilst cauterizing the turbinates and pharyngeal granulations, and in removing naso-pharyngeal polypi and aural polypi. It was of less value in dealing with middle-ear trouble, as the field became obscured. Guaiacol or creosote in cod-liver oil is advocated by Botney<sup>59</sup> in a solution of 1 to 2 per cent. for tuberculosis of the larynx. Prof. Hare<sup>60</sup> says, that guaiacol is one of the most recent methods of reducing fever; in typhoid, the drug is applied as a paint. It has a pronounced antithermic effect, and rapidly relieves pain; it may be applied pure, but is better used in a solution of 15 min. in 75 min. of alcohol; or, if it be preferred, with vaselin in the following proportions: Vaseline, 6 dr.; guaiacol, 1 dr. The following solution is also very effective: vaselin, 30 grn.; salicylic acid, 2 grn.; methyl salicylate, 5 grn.; guaiacol, 4 min. These substances are freely absorbed by the skin. A. Goldhammer<sup>61</sup> uses guaiacol in chronic coughs, even when they are not due to tuberculosis, with encouraging results, giving as much as 15 drops, three times daily. Goldberg<sup>62</sup> recommends guaiacol in gonorrheal epididymitis, and applies it with

an equal part of glycerin, directly upon the scrotum.

Colleville<sup>63</sup> used applications of guaiacol and chloroform in the treatment of sciatica. He combined 6 parts of guaiacol to 10 parts of chloroform, and injected from 15 to 30 min. into the most painful spots. Appleby<sup>64</sup> used guaiacol successfully in two cases of eclampsia; 40 to 50 drops were poured on the abdomen and gently rubbed in.

Bauzet<sup>65</sup> reports 39 cases of genito-urinary tuberculosis, 6 completely cured by Guyon's sublimate injection—1:5000 to 1:3000. He ranks guaiacol next in efficiency, while iodoform, lactic acid, and formaldehyde he considers inferior. Breton<sup>66</sup> gives the following solution to be injected in doses of from 1 to 1½ dr., without danger: Iodoform, 15 grn.; guaiacol, 75 min.; sterilized olive oil, 3 oz. He reports eighteen cases of pulmonary tuberculosis that were given 424 injections, with good results.

Grégoire,<sup>67</sup> in an interesting thesis on the action of guaiacol injection in surgical tubercle, reports several cases and states that he used the liquid as a 1:10 to 1:20 solution in sterilized oil, with very good results. A favorable result was also obtained in a number of cases of white swelling. McCormick<sup>68</sup> used guaiacol in a number of cases of typhoid fever with excellent results, and considers guaiacol best applied externally. Rogers<sup>69</sup> used guaiacol in the treatment of malarial intermittent fevers; 15 minims were rubbed into the axilla and covered with cotton. The average fall of temperature in three-quarters of an hour was 1.6°; in one and three-quarter hours, 2.3°; and after four hours, 3°. No depression resulted.

Thiocol is another new compound of guaiacol, being the potassium salt of guaiacol-sulphonic acid. It is a white, odorless powder, of a slightly bitter taste, and soluble in water. According to Rossbach,<sup>70</sup> it is more readily absorbed than all other creosote or guaiacol preparations. Schwarz<sup>71</sup> recommends thiocol in doses of 150 to 220 grn. a day in phthisis. He believes it increases the appetite and lessens the cough, checks night-sweats and reduces temperature. Acland<sup>72</sup> reports two cases of phthisis in which guaiacolate of piperidine acted well in checking night-sweats. [Thiocol has recently been used by a number of prominent American and European clinicians, among whom are Prof. Jaquet, Henry L. Shively, Prof. Martin Mendelsohn, Prof. E. de Renzi, Prof. L. Maramaldi, Dr. Otto Mar-



cus, Dr. Schnirer, Dr. Schoull, Dr. John Moir, Dr. F. W. Frieser, etc. Their unanimous verdict is that thiocol is the best form for administering guaiacol, being non-caustic and non-toxic; producing no gastro-intestinal derangement, and possessing the additional advantage over guaiacol and its other derivatives of being soluble in water, and of possessing no odor and no disagreeable taste.

Guaiacetin is the name of a new compound formed by the action of chloroacetic acid on pyrocatechin. It appears as a white, odorless powder, which is readily soluble in water. Nièd<sup>73</sup> reports six cases of phthisis treated with this new preparation.

Lenz<sup>74</sup> reports 52 cases of epididymitis, 50 of which were of gonorrheal origin, treated with guaiacol and vaselin; a 10 per cent. ointment, or a 5 per cent. where the skin of the scrotum was tender. The scrotum was first washed with soap and with ether; the ointment was applied during the acute stage, and the swelling, fever and pain disappeared in from three to five days. Berlioz<sup>75</sup> used a combination of horse-serum and of the phosphite of guaiacol, the latter containing 95 per cent. of guaiacol, in the treatment of pulmonary tuberculosis, and reports excellent results. Prozorovsky<sup>76</sup> used a mixture of guaiacol and tincture of iodine, as an application in serous pleurisy. He believes that the exudate was absorbed more rapidly than by any other method of treatment. Briggs<sup>77</sup> reports eight cases of pulmonary tuberculosis treated with valerianates of creosote and guaiacol. He believes the preparations non-toxic and non-irritating, and considers them general tonics, and stimulants for digestion. Wainright<sup>78</sup> speaks enthusiastically of the valerianates of guaiacol and creosote in phthisis. They increase the weight and the appetite, and relieve cough, hectic fever, and night-sweats. The valerianic acid component, he believes, by its sedative action on the nerve-centers, enables the patient to enjoy a sense of ease and comfort not secured by other remedies.

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[Written for MERCK'S ARCHIVES]

## THERAPEUTIC MANAGEMENT OF TYPHOID FEVER

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(Continued from p. 15, January issue)

### III. TREATMENT OF COMPLICATIONS AND ACCIDENTS

THIS is an important chapter, since prognosis of the disease is mostly subservient to its complications. In the present paper it becomes necessary to mention the most common accidents, although calomel administration would seem to render them obsolete.

Before enumerating the complications proper of typhoid, one word concerning mercurial stomatitis, which might be called a complication of the treatment. This is, we have said, a very rare occurrence, but none the less annoying when it does appear. Its duration is brief as a general rule. It may be a coincidence, or perhaps the presence of mercury as eliminated by the salivary glands neutralizes the staphylococci; however it be, I never had sore-throat nor thoracic complications whenever there occurred mercurial stomatitis. During a certain epidemic, all cases of typhoid presented, about the tenth day, a species of sore-throat ulcerative in character, except where there existed stomatitis as a result of calomel administration. Stomatitis, however, should be treated on appearance. We all know the good effects of the old reliable chlorate of

potash gargle (1 dr. to 4 oz.) and the really remarkable benefit derived from the *early* use of silver nitrate in a solution of 10 grn. to 1 oz., used as an application to the gums and border of the tongue. Mouth-washes of hot water or hot milk afford great relief; they should be repeated frequently. Tablets of rhatany and catechu, allowed to dissolve slowly in the mouth, are also very efficient. Tincture of myrrh in water is useful; also the chewing of cherry-bark.

**Headache.**—In the initial stage of this trouble, in the plethoric, as in the young and robust, aconitine, associated with digitalin, has a better action than perhaps any other agents. The effect is immediate and complete. In anemics, on the other hand, caffeine in rather large doses, with ammonium chloride, acetate, or carbonate, gives more satisfaction. In the "splitting" headache, with high fever, whether there is delirium or not, the ice-cap is a valuable application. Aulde highly recommends fluid extract of gelsemium, 1 drop every half-hour for five or six doses, to be continued, if necessary, after an intermission. I have tried it at times with wonderful results. Calomel treatment always has a decided result on cephalalgia.

**Nose-bleed.**—Usually benign, epistaxis sometimes assumes the formidable rôle of announcer of the hemorrhagic form of typhoid. It is much more frequent in children; this seems to show that scratching of the nose may have something to do with it. It is worth while to draw the attention of the patient and nurse to this fact. In one case, in a young man, I have seen, during the third week, a nose-bleed caused by these means so persistent as to endanger life. In serious hemorrhage, the patient should be kept at rest, the head raised, while the forehead and base of the nose are bathed with ice-water. Insufflation of tannic acid or powdered alum is useful. Ergot finds its indication, either in continued doses of the fluid extract, or better, hypodermatically, in the form of ergotin. An excellent practice is that of Hutchison, plunging hands and feet in very warm water. Acetanilid, as a snuff, has given surprising results. As a last means, we can have recourse to the "tampon" or plugging.

**Sore-throat (angina).**—In zymotic diseases, one must never overlook "solutions of continuity" which can become the means of introduction to other germs. The ulcerative sore-throat, or pharyngitis, of typhoid can be slight or severe in extent, carrying secondary infections to the thoracic organs. Plain, therefore, is the necessity of prophylaxis through the most scrupulous care of

the mouth from the start. The repeated use of Dujardin-Beaumetz's solution will be found very serviceable:

Boric Acid.....	6¼ dr.
Carbolic Acid.....	15 grn.
Thymol.....	4 grn.
Water.....	2 pints

Allow a mouthful of the solution to be kept in the mouth for one minute.

Tooth-washes of boric acid solutions, gargles of chlorate of potash, hydrogen peroxide, etc., will prevent such secondary infections. When it is too late to prevent the trouble, immediate applications of silver nitrate—40 grn. to the ounce—may check its progress. In any case, the following solution can be relied on:

Tannic Acid.....	} of each, 30 grn.
Carbolic Acid.....	
Menthol.....	10 grn.
Glycerin.....	to make 1 fl. oz.

For local application, two or three times a day.

**Neuralgia and Myalgia.**—In certain cases, mostly in arthritic subjects, there are often, during the first two weeks, intense neuralgias, intercostal, sciatic, etc., myalgia here and there, to the great annoyance of the patient and the physician. In these cases, my first remedy is invariably sodium salicylate or salophen, and almost invariably it is successful. Should the pains follow the fever, and increase with each evening exacerbation, I administer acetanilid and camphor at night-time, an excellent combination. The camphor checks the chill caused by the reascension of the fever suddenly lowered by acetanilid, and, in case of thoracic complications, exerts an admirable sedative action on the cough. In some cases, the pains may be so excruciating as to demand morphine.

**Vomiting.**—This accident is sometimes met with at the start. It alarms the patient and interferes with the treatment. It is well to check it by refraining from all nourishment for a certain time; and should it persist, by only allowing such liquid food as is most easily retained. When milk is rejected in hard curds, it should be diluted with lime water or vichy. Counter-irritation by blisters at the pit of the stomach is a good old practice which few physicians have entirely abandoned, I think. A few drops of chloroform on sugar, given each time the patient takes nourishment, have been found serviceable in preparing the stomach for the reception and retention of food. But nothing equals divided doses of calomel, as described above, in the treatment of vomiting in all pyrexias.

**Delirium and Insomnia.**—The marvelous effects of belladonna or atropine in that form of muttering delirium with contracted

pupils is universally known. We may give  $\frac{1}{200}$  grm. of atropine sulphate every half hour until appearance of pupillary mydriasis. There are, however, certain forms of delirium not in the least benefited by this treatment, but disappearing frequently through cold applications—for instance, the ice-cap. Graves, of Dublin, and after him a great many English practitioners, have long extolled opium for delirium and insomnia. Sir W. Jenner severely criticizes this method and substitutes, instead, chloral with or without bromides, given as an evening draught. Chloral, when administered, should be restricted to the first stages, and prohibited later on, when the heart has been staggering for weeks. Sulfonal and trional, especially the latter, are to-day very popular, and in my hands never failed to produce the expected results. It often happens that delirium and insomnia follow a sudden elevation of temperature. In such cases, acetanilid and salol produce sleep after a profuse sweating. In old toppers, a generous quantity of alcohol will nearly always dispel delirium. [Dormiol, which is a chemical combination of choral and amylene hydrate, has been used with good results in delirium and insomnia. The heart-depressing effects of chloral are said to be absent in dormiol.]

**Hepatic Complications.**—The bacillus may penetrate the parenchyma of the liver and there develop without hindrance certain complications. The damage has been done when the symptom "jaundice" has made its appearance. In these cases, it is rarely catarrhal jaundice we have to deal with; unfortunately, it is too often of graver form, beyond our means of remedying. In this, as elsewhere, prevention alone is worth the whole Pharmacopœia. Lesage, of Montreal, has particularly insisted on the prophylactic properties of ether. Since calomel has become my war-cry, I have never met with jaundice; at worst, I observed the yellow coloring of biliousness in certain individuals.

**Chills.**—In all phlegmasias, especially in zymotic diseases, the physician cannot neglect chills, but should try to explain, avoid or control them. The typhoid chill expresses many conditions. In the first stage of the disease, chills may announce complications; in the last stages, it may mean the formation of an abscess somewhere; and, occurring during convalescence, it often portends a relapse. Besides, there are old malarial patients who have frequent chills during typhoid fever. The practitioner with entire knowledge of his patient's antecedents will dispel chills easily by quin-

ine. Then there are those chills coming on before an elevation of temperature and following a sudden declension, either spontaneous or caused by antipyretics. In the one case, we can increase the stimulation; in the other, we should add salol or camphor to our antipyretic. And last, but not least, there is the *chill of re-infection*, that few authors, to my knowledge, have insisted on. An individual, for example, becomes infected through contaminated waters. During his illness he continues to drink this same water, absorbing, each time, a further dose of poison to increase that which he already possesses. Thence, renewed infection, renewed acuteness, with extension of phlegmasias, and chills such as the chills of pneumonia revived by the spreading of the disease. I may be permitted a digression to relate some instances that I thought very interesting:

During the winter of 1897 there was an outbreak of typhoid in every one of the houses situated on the course of a small river that crosses two towns in my vicinity. The disease first showed itself in the houses near the source of the river. The occupants, instead of disinfecting the stools, found the river a very convenient dumping place. I was attending my third case, in the locality, some four miles further down the stream. This patient had continual chills during the three first weeks, and I could not explain their origin, especially since I had never seen the like with calomel treatment. The explanation was easy when I discovered how the water of the river was polluted, and the chills disappeared with the substitution of other water. However, in this case the household followed the example of their neighbors further up-stream and used the river as their sewer, and the result was again an outbreak below them, and in each case chills came on. In one case, owing to special circumstances, the patient continued to drink the river-water, but after its being boiled a half hour, and his chills stopped. After a week of convalescence, he resumed drinking the infected water in its crude state, and there was an immediate relapse with chills of great severity. The conclusion can easily be drawn.

**Constipation.**—As will be seen further on, there exists divergence of opinion among authors on the subject of constipation. Osler much prefers constipation in every case; Debove uses internal balneation with the view of causing diarrhea. Truth, we fancy, must lie between the two extremes. In fact, the majority of practitioners agree that constipation must be controlled to a certain extent; and where there is call for intervention (when the bowels do not move freely at least every second day) the best means consist in aperients of a mild form, glycerin suppositories, and enemas.

**Diarrhea.**—Some authors, among them Prof. Osler, see danger or at least a threatening in diarrhea of even moderate intensity. They declare that diarrhea is

nearly always present in serious cases, and constipation in mild forms. Others stand at the antipodes and—like Josias, of Paris—give their patients 4 to 6 liters of water (internal balneation) or the same quantity of liquid food (liquid forced feeding) so as to promote excessive diarrhea and polyuria, or, as they call it, “the daily washing (lessive) of bowels and kidneys.” Debove, for instance, attributes the good results of hydrotherapy more to the fact of excessive diuresis than to any other cause. This last class of authorities pays little attention to the diarrhea; they even call ill-timed such medicines as impair peristaltic movements and intestinal secretions. The diarrhea, according to them, being the result of irritation in the intestinal glands by the passage of toxic products to their elimination, they give laxatives, the effect of such agents consisting then in the hastening of the elimination of noxious agents. In any case, those who prescribe laxatives in the morning can perceive that the diarrhea is diminished thereby in the afternoon and even checked by evening time. If such is the state of things, as regards *laxatives*, let us hasten to say no such opinion holds in the case of *purgatives*. After the first week, purgatives become dangerous agents, causing irritation and congestion of the bowel, hurting the progress of cicatrization of ulcers in the ileum. With calomel, I never encountered diarrhea sufficient to cause me to adopt a treatment for the prevention of tympanites or other accidents of ulceration. Should the occasion have arisen, I would have long hesitated before “locking the wolf within the fold.” It seems to me I would prefer correcting the excessive discharges with aromatized mineral acids, chloroform, turpentine, tincture of capsicum, but never by astringents or opiates. Oil of turpentine is especially valuable when diarrhea persists during convalescence.

*Nephritic Disturbances.*—We have already broached this question while speaking of caffeine. It is of immense importance to prognosis. Everything can here be met with, from functional disorders, generally prevalent, to congestions and nephritis. A conscientious practitioner, and man who cares for his reputation, will analyze the urine at least at each phase of the disease. By considering the amount of urea excreted, the presence and quantity of albumen and indican, one can estimate the process of disorganization. Auto-intoxication, through retained urinary products, though often overshadowed by other symptoms more alarming in appearance, can and does

account for many conditions of coma or so-called ataxo-dynamic symptoms. Cephalalgia in the last stage, with or without edema, is always a danger signal, and also albuminuria, even moderate, should be considered as dangerous when it coincides with certain skin eruptions. If the physician can do little in the way of treating these kidney disturbances, he can, at least, through his clear-sightedness protect himself in his prognosis and prevent disagreeable surprises.

*Pneumonia.*—For the last five years I have not encountered one case of tardy pneumonia. The initial pneumonia that, so to speak, ushers in typhoid fever—and in some epidemics is found to be the rule—does not in the least invalidate the calomel exhibition. In this case, however, I always follow Aulde's method: For three or four days  $\frac{1}{30}$  grn. of calomel every half-hour or hour until purgation follows. For the rest, treatment here is the same as in ordinary pneumococcic infection. Alcohol in generous supply and crystallized digitalin in decreasing doses are reliable agents. Hydrotherapy is especially indicated. In simple pneumonia, we all know the success of Prof. Mays with ice-poulticing—all the more reason, for using this method in pneumo-typhoid. One thing of the greatest importance in the treatment of the various forms of pneumonia is that we should never overlook the heart's action. The heart has with the lungs the most intimate connections, and they react on each other in all phases of life, physiological or pathological. Not only should we be very careful not to hurt or to depress the heart, but, by all means, we should help this essential organ so overworked in fevers. In typhoid, this condition is worthy of our most particular considerations. It happens, at times, that upon the disappearance of pneumonia, there remains a persistent bronchial catarrh. In this case guaiacol carbonate will be the right thing to bring about the desired cure. Its value is still enhanced when there is danger of tubercular complications. It acts equally well as an intestinal antiseptic, so that in the event of its use for thoracic troubles, all other intestinal antiseptics may be stopped.

*Myocarditis* is one of the most terrible and most frequent complications. This recalls me to many of my failures. How often, in the beginning of my practice, have I noticed the weakening of the heart-beat first, the lowering of one and then another of the heart-sounds, then the skip-beats—then sudden collapse. If my patients

have myocarditis to-day, it must have escaped my observation as it has also no ill consequences. Since this complication causes more of our unpleasant surprises, the physician should auscultate his patient carefully and at *length*; if not every day, at least as often as he can visit him. It is not within our power to cure this dread trouble, but we can detect its approach and notify the sick and the family of its impending issue. Here again, prophylaxis is all-important: commencing treatment in the start with proper intestinal antiseptics, strengthening the heart with alcohol, strychnine, and above all caffeine. At the present time, sparteine finds great favor in the initial stage, but, like digitalis and strophanthus, it requires great discretion in its use, and may prove dangerous when the heart has been staggering for weeks and is protracted by a long struggle.

*Tympanites, Enterrhagia, and Perforation.*—Intestinal torpor, gaseous dilatation, and ulcerative accidents are all complications, each causative of the other, each consecutive and predisposing to the rest. We have, therefore, grouped them together. Intestinal antiseptics, as thorough as can be obtained, and an appropriate control over excessive diarrhea, are the best means of preventing serious abdominal complications. Whenever, upon palpation, there is evidence of swelling or tenderness, recourse is to be had to cold applications and turpentine stupes, which seem to be in most vogue among physicians. No time is to be lost. The oil of turpentine, administered either by the mouth in capsules, or by the rectum as a mucilage (10 to 20 drops every two to four hours), will check gaseous dilatation, control profuse diarrhea, and act as a preventative of enterrhagia. Should the latter occur, good results will be obtained from absolute rest, iced drinks, and the ice-bag. In cases of abundant hemorrhage, hypodermatic injections of ergotin will act well. Dr. Jenner's favorite remedy was gallic acid. Nowadays great results are predicted for gelatinized serum. A great effect is obtained through the subcutaneous or intravenous injections of concentrated artificial serum. It may also be used, more diluted, by the rectum. Hemo-gallol will find its indication for a few days after considerable hemorrhage, or in anemic subjects during convalescence. There is no medicinal agent to oppose to perforation. The result in general is fatal. It happens, however, by a hazard of the *vis medicatrix naturae*, that local peritonitis may ensue with the throwing out of adhesions between the intestine

and the serous membrane. Surgery steps in here with splendid results, according to New York surgeons; provided, of course, there is no delay.

*Hectic State.*—Certain convalescents who feel well throughout the day have slight chill in the evening, with some fever, night-sweats, and insomnia in the first hours of night. Camphorated oil acts very well in these cases. Fifteen minims of the following solution may be injected hypodermatically each night: Camphor, 1 part; olive oil (sterilized) 9 parts.

When the patient cannot be visited every night, the injection will be replaced by a dose of 12 to 15 grn. of trional given at bedtime. The effect on restlessness and night-sweats is excellent.

*Prolonged Consecutive Weakness.*—After an infectious disease so weakening as typhoid, it is essential for a long period to assist nature in recuperating. No matter how great the appetite or how satisfactory the appearance, I prescribe strychnine and Fowler's solution, in decreasing doses. This latter, by stimulating the nutrition of the skin, is of especial value against *loss of hair* after fevers. Hypophosphites and glyceri-phosphates are also welcome agents at this stage.

*Relapses.*—These accidents are generally due to cold and dietary transgressions, causing coli-bacillary infection—according to some; a new infection—according to others. This consecutive disease is of short duration and not so grave as formerly said to be. The system, it has been said, has in a way become vaccinated by the first attack. However, it is worth remembering that the patient is exhausted, and the shorter the interval between the primary and secondary attacks, the less opportunity he has had to regain his normal strength. The first indication, then, will be to administer tonic-stimulants and to return to liquid food. The ulcerated spots of the intestine are covered with scabs that demand great caution for their preservation. Absolute contra-indication against purgatives and even laxatives is the rule. Should constipation necessitate interference, aperients of the mildest kind are to be used. I even avoid the use of small doses of calomel. Our antiseptics can now be carried out by naphthol or, better, by benzonaphthol.

#### IV. DIETARY

Fevers were starved, before Graves turned the medical world to the common-sense way of judicious feeding. The feeding—and this is a *sine qua non* condition—should be liquid from the start, and exclu-

sively so. The most important food is milk, fresh, aerated, and well preserved on ice. When the patient rebels against milk, it can be aromatized or mixed with brandy; and if it must be diluted, it should be with cold water previously and recently boiled. In case of large clots appearing in the stools or vomited matter, it may be added to lime water in various proportions. The diet may be varied through recourse to beef-teas or beef-juices recently prepared from fresh lean beef. Then we have the different malt preparations, "liquid peptonoids," *clear* "bouillons," fermented milks (koumyss and kefir) somatose, etc. Tea and coffee form an excellent and safe beverage. It is usual in the United States, I believe, to place some restrictions on the liquid foods, in cases where abdominal complications are threatened. Debove and Josias use large quantities of liquid food to obtain their intestinal "lesive" (washing out), affirming that through this method their patients lose less flesh less strength, and enjoy a better convalescence.

#### V. DISINFECTION

It is unnecessary to insist on the great value of hygiene as a means of fighting against typhoid fever. Mortality in this disease has decreased since our more thorough study of hygienic sanitation. Above all, the contaminating agent—water or milk—must be suppressed, or if that prove impossible, they should at least be boiled until complete sterilization. The patient should be isolated in a conveniently large and well-ventilated room, without curtains, carpets, hangings, etc.—in fact, with just such furnishings as are indispensable. The room should not be swept or dusted; its floor and walls can be mopped with a solution of chloride of lime. Every object coming in contact with the patient should be given over to his exclusive use, and frequently disinfected. The sheets should be changed every day, or even as soon as they become soiled, and it is better to protect the bedding by an oil-cloth. All toilet paper or cloth soiled by dejections must be immediately burnt. The stools should be received in a vessel containing a solution of quick lime or chloride of lime, and then emptied into a special hole in the ground and covered with unslaked lime. In the interval between each stool the vessel can be washed with boiling water and disinfected with corrosive sublimate. Charcoal is also a very proper disinfectant for stools. Nearly every town, nowadays, possesses the necessary equipment for disinfecting clothes and premises after an attack of typhoid. In the

country, simple boiling or boiling with lye, chloride of lime, and bichloride of mercury will meet all the demands of domestic disinfection. In France, great use is made of copper sulphate in weak solution (12 Gm. to the liter) for the hands and unsoiled clothes, and the stronger solution (50 Gm. to the liter) for dejections and contaminated clothes. Formaldehyde disinfectors and deodorizing lamps will also be found of great help in several instances. Great attention has heretofore been paid to the disinfection of stools and very little care has been given to urine. According to Dr. Gwyn, of the Johns Hopkins Hospital, this part should not be neglected. It appears from the recent publications of Gwyn that Eberth's bacilli are detected in large number in typhoid patients' urine from the second week, and these persist for weeks and months in 20 to 35 per cent. of the cases. The patient should be warned of this danger of contamination. By the use of urotropin [formin], 10 grn. thrice daily during convalescence, Gwyn has observed the rapid disappearance of the bacilli. Drs. Petruski, of Dantzig, and Richardson, of the Massachusetts General Hospital, after similar observations made in July, 1898, came to the same conclusions.

Dr. Harry Cohn says that tannoform has proved very useful in his hands in the intestinal catarrhs of children. It acts very well, and does not disturb the stomach, the drug being insoluble in the gastric juice. To young children it is given in doses of 4 grains; to older children, in doses of 8 to 10 grains. The remedy also acts well in primary dyspepsia.—*Therapie der Gegenwart*.

Conium acts as well upon the urinary organs as upon the reproductive. In feeble people, with frequent dripping urination, especially at night; with burning, cutting urethral pain; a turbid, thick, whitish or bloody urine, and a sense of weight or pressure about the bladder, it is the remedy that will satisfy patient and physician.—*Eclectic Med. Jour.*

In mild cases of acne, Dr. A. Philippson<sup>1</sup> recommends the application of the following mixture:

Acetic Acid .....	} of each.
Tinct. Benzoin .....	
Spirit Camphor .....	
Tr. Red Saunders (if desired) .....	
Alcohol .....	45 min.
to make 3½ fl. oz.	

Put some on cotton and rub face night and morning.

<sup>1</sup> *Allg. med. Cent. Zeit.*, 1900, No. 65.

## THE TREATMENT OF INFLUENZA.<sup>1</sup>

By Wm. H. Thomson, M.D., LL.D.

THE author, who has had a severe attack of la grippe, and who has treated numerous cases in personal practice and in consultation, has elaborated a plan of treatment which has proved highly successful. For the general aching pains that characterize the onset of this disease, as of so many other febrile affections, aconite is the best remedy. Not only is it one of the most effective analgesics for this class of pains, but it counteracts the accompanying vascular derangements, particularly of the upper respiratory tract. The author believes that he often aborted an acute tonsillitis by the early administration of a dose of tincture of aconite, sufficient to cause the characteristic sense of constriction in the throat. At the beginning of febrile infections, including that of croupous pneumonia, aconite seems not only to relieve the systemic pains, but to modify for the better any local capillary stasis setting in with the onset of the fever. The heart, under its influence, becomes much quieter and the pulse softer. This beneficial action of aconite seems to be further promoted by the addition of a small dose of Dover's powder. Another drug which the author has found very serviceable is phenacetin, and its analgesic action, especially when combined with aconite, is more marked in influenza than in any other disease. It should not be given in doses sufficient to reduce temperature, because temperature in influenza is a very secondary matter; and, moreover, in antipyretic doses it may have the dangerous effect of weakening muscular action. But when given in small doses, combined with quinine, it may, in the author's belief, act as a true antitoxin to the influenza poison. The author's experience is decidedly in favor of this hypothesis, for these two drugs have seemed to mitigate the symptoms and to prevent the sequelæ of the disease, evidently not by their antipyretic properties, but by a specific neutralization of its effects, as indicated by the less favorable course of those cases in which phenacetin and quinine have not been administered.

Coming to detailed treatment, the author prescribes pills each containing the following ingredients:

Extract Aconite.....	1/11 grn.
Dover's Powder.....	1/2 grn.
Phenacetin.....	2 grn.
Quinine Sulphate.....	1 1/2 grn.

For one pill. Two such pills to be taken three times a day, as long as any febrile temperature remains. As soon as the temperature declines,

whether it be on the second or a subsequent day, the dose is reduced by one pill a day, till only three are taken and this is continued until all catarrhal symptoms have subsided. In patients too susceptible to the action of aconite, the dose of the latter may be reduced.

In certain types of the disease, coryza, nasal catarrh and tracheitis are leading symptoms and in these conditions a pill of a quarter of a grain of extract of belladonna with a grain or two of camphor acts beneficially; an additional useful measure is flushing of the throat by the aid of a fountain or bulb syringe with a quart of hot water, in which two teaspoonfuls of potassium chlorate and five drops of oil of peppermint have been dissolved. This often affords marked relief by causing a great flow of mucus from both nose and throat. Where the supraorbital sinuses become involved, accompanied by excruciating pain and often photophobia, ergot is indicated. It is specific in its action and the fluid extract should be given in dram doses, repeated every three hours if necessary; adding a teaspoonful of elixir of cinchona to each dose makes it more acceptable to the stomach.

A markedly paroxysmal dry cough, which has nothing to do with bronchitis, but is evidently of a nervous character, sometimes makes its appearance during an attack of influenza; it may persist for weeks after other symptoms have subsided. It is apt to be especially troublesome at night. This cough generally yields to ammonium bromide and antipyrine: 20 grains of the former to 10 of the latter.

We now come to the treatment of the respiratory features of influenza. A bronchitis in the course of influenza sometimes becomes a very serious affair, especially in patients past middle life, with more or less endarteritis and a high-tension pulse. It generally makes its appearance after a week or more of the ordinary catarrhal symptoms, the temperature rising rather suddenly from 99° to 102° or 103° F. The bronchitis is quite obstinate; ordinary remedies bring but temporary relief. After a time signs of respiratory failure may develop, with the constant presence of râles at both bases; the power of expectoration is diminished and the bronchitis is really converted into a broncho-pneumonia. This broncho-pneumonia may be said to be caused by the occlusion of the smaller bronchi with plugs of tough viscid mucus and not by an extension of the catarrhal process itself from the bronchi to the air lobules. The indications, therefore, are to liquefy the retained secretions as speedily as possible, stimulating at the same time the function of expectoration. The am-

<sup>1</sup> Read before the N. Y. Acad. of Med., Jan. 15.

monia compounds, useful as they are in inflammation of the trachea and larger bronchi, are singularly ineffective as expectorants when the inflammation has reached the smaller tubes. For this condition, as well as for converting a viscid secretion into a thin fluid, the best remedy is the author's linseed emulsion, which he has been advocating for the past twenty-five years. [The formula for this emulsion will be found in the ARCHIVES for November, 1900, p. 464.]

The author wishes, emphatically, to emphasize the point that he knows of no so-called expectorant in bronchitis which equals this combination; he adds to each dose of emulsion  $\frac{1}{12}$  grn. of morphine and 8 grn. of chloral to allay the nervous elements of irregular bronchial muscular action. Counter-irritation is a very important adjunct to the treatment of bronchitis. This consists, first, in a thorough cupping of the chest, both anteriorly and posteriorly; the weak cupping by glasses with rubber bulbs is wholly useless. Following the cupping the author advises application to the chest of large cloths, wet with an infusion of capsicum made with a dram of the drug to a pint of boiling water; this is preferable to mustard, as it causes no vesication or sores. It is well to keep up the counter-irritation for a long time, and a good liniment for the purpose is the following:

Ammonia Water.....	} of each, 1 oz.
Oil Turpentine .....	
Tincture Capsicum..	
Soap Liniment.....	

For the debility which follows influenza the author relies mainly on the fluid extract of coca and nux vomica. Inhalation of oxygen is also often useful if administered with a funnel over the nose and mouth as in administering ether.

Besides all the above measures, rest in bed, until permitted to get up by the physician, is of paramount importance.

## THE MEDICINAL TREATMENT OF PUERPERAL INFECTION<sup>1</sup>

By H. J. Garrigues, A.M., M.D.

AFTER some introductory remarks, in which he shows that he was the first one to introduce antisepsis in obstetrics in this country, Dr. Garrigues outlines the following plan of treatment: Superficial tears and abrasions of the vulva and vagina are best left alone; they heal in a few days under an occlusion dressing. Exceptionally they may be dusted with iodoform, aristol, dermatol, stearate of zinc, or an ointment con-

sisting of iodoform, balsam of Peru, and vaselin may be applied. If the lochia are offensive, vaginal injections with 1 per cent. solutions of creolin or lysol should be given every three hours. While the author is in favor of vaginal injections, he is strongly opposed to intra-uterine injections, claiming that the latter are likely to do a great deal of harm. He also condemns the use of corrosive sublimate for injection, there being danger of acute poisoning. In his paper, "Corrosive Sublimate and Creolin," he collected twenty-three cases of fatal poisoning with the former drug.

If the wounds in the vulva, vagina or cervix become diphtheritic, they are cauterized with a 50 per cent. solution of zinc chloride, applied on a cotton swab; this is followed by an antiseptic douche. If the perineum has been stitched, all sutures are to be removed, as the torn surface already is or will be infected, and must be cauterized. The object of the cauterization is twofold—first, to kill the microbes that may be found on the surface of the wound; second, to seal the lymph and blood-vessels leading into the interior of the tissues; and zinc chloride accomplishes this better than iodine, iodoform, Monsel's solution or solution of ferric chloride.

In puerperal infection without peritonitis the bowels should be opened with saline aperients or with calomel, but when there is peritonitis, only enemas should be used, preferably of soap-suds or ox-gall. Cathartics in this condition are liable to tear adhesions and cause violent pain. The food should be abundant and nourishing; the patient should take all she can digest of milk, kumyss, beef-tea, oatmeal gruel, prepared invalid foods, eggs beaten up in milk or broth, and sometimes even solid food, such as ox-tongue, ham, oysters, or sardines. Stimulants should be used very freely. Half-ounce doses of brandy or whiskey should be given frequently, so as to make the patient consume from 6 to 12 ounces a day; if preferred, champagne or some strong wine may be substituted instead. Among tonics, quinine, ferric chloride, strychnine, digitalis, strophanthus and nitroglycerin are nearly always indicated.

The pain should be combated with lead and opium wash, an ice-bag, a warm flaxseed poultice, and morphine or tincture of opium; minute doses of atropine may be added to the morphine. For reducing the temperature the author recommends cold applications—ice-bag, rubber coil, cold pack, cold bath, etc. Before the bath it is well to give a dose of brandy, and while in the bath the patient must be constantly

<sup>1</sup> *St. Louis Cour. of Med.*, XXIV, No. 1.



watched; if it proves debilitating, she should be removed at once.

For the direct treatment of the uterus, the author uses iodoform, either in the form of suppositories or gauze. Gauze is good if there is any bleeding, but is not good for drainage, as its meshes soon become blocked up and lose their capillarity. According to the author, iodoform is valuable in combating putrefaction on the surface with which it is in contact, and it enters, besides, very rapidly into the general circulation, and is eliminated in the kidneys, so that the whole system comes under the influence of the iodine. To aid in the contraction of the uterus, ergot by the mouth and the faradic currents applied to the uterus, are indicated. If there is a case of diphtheria in the house or if the diphtheritic bacillus be detected in the wound secretion, diphtheria antitoxin should be injected. Marmorek's antistreptococcic serum is worse than useless; hypodermic injections of creosote have also proved worthless in the author's hands; but intestinal antiseptics, such as carbolic acid, naphthalin, salol, etc., are useful, especially when there is an offensive diarrhea. Nuclein solution, either hypodermically or per os, is useful. So is normal salt solution, either intravenously or subcutaneously. From a pint to a quart should be injected at a time, and repeated several times daily. Diuresis is an important adjuvant, and this is best accomplished by triticum, potassium salts, and digitalis; when the kidneys are affected, the diuretics must be combined with drastic purgatives, such as croton oil, gamboge or elaterium, and with diaphoretic measures; diaphoresis is best brought on with a hot pack or a hot-air bath. For vomiting, if it be a prominent feature, cocaine, hydrocyanic acid, and an ice-bag to the pit of the stomach are useful; sometimes rectal alimentation must be resorted to. Bed-sores should be prevented by the use of air-cushions, elastic rings, water mattresses, etc.; excoriations should be dressed with the iodoform and balsam of Peru ointment; if gangrene develops, the dead tissues should be removed with knife or scissors, and granulation promoted by dressing with a 10 per cent. camphor emulsion. In phlegmasia alba dolens, the limb should be raised, painted with iodine or rubbed gently with blue ointment, then wrapped in cotton and slightly compressed with a rubber bandage. Other complications, such as pneumonia, pleurisy, and arthritis, are to be treated on general principles. [The second part of the paper is devoted to surgical measures.]

## FORMALDEHYDE AND ITS COMBINATIONS<sup>1</sup>

By Prof. P. A. Dubois, Ph.D.,

College of Physicians and Surgeons, San Francisco

PROF. DUBOIS has reviewed the pharmacology of formaldehyde and its combinations in a concise yet comprehensive manner. He says in substance: Formaldehyde (synonyms: methylaldehyde, oxymethylene, formic aldehyde; also known under the trade names formalin and formol; formula:  $\text{CH}_2\text{O}$ ) is a gas of pungent penetrating odor; a saturated solution of it has a sharp taste, is colorless, volatile and freely miscible with water, alcohol, glycerin, etc. The gas has a tendency to condense and change into paraform; ammonia converts it into hexamethylenetetramine. It may be made by oxidizing wood alcohol by means of platinum, or by the action of electricity on a mixture of hydrogen and carbon dioxide. Chemically, it unites with sulphuretted and nitrogenous products of decomposition, forming odorless and innocuous compounds. Gelatin subjected to its action becomes brittle and is readily pulverized. It hardens blood-clots, sputa and animal tissues.

Van Emergen and Sugy showed that books and small objects containing germs of diphtheria, tuberculosis, scarlet fever and smallpox are disinfected by 5 Cc. of formaldehyde to the liter of air. Horton found 1 Cc. sufficient to 300 Cc. of air. A 1 per cent. solution deodorizes feces and vessels; a 2 per cent. sterilizes surgical instruments. Walter sterilizes his hands in a 3 per cent. solution, followed by a rinsing in alcohol.

As our knowledge of its properties stands at present, it is undoubtedly a good disinfectant, being little inferior to corrosive sublimate, and more effective than carbolic acid.

Roux, Trillat, Vaillard, Lemoine, Bosc, Aronson, Pfuhl, Harrington and others have experimented with it, and have shown it to be a good surface disinfectant, not suitable however for plague, cholera, sepsis, puerperal fever, typhoid fever, dysentery and erysipelas.

Various generators and volatilizing apparatus have been devised—Trillat's, Novy's, Kinyoun's, Schering's, etc. A practicable and easily procured article for extemporaneous use is an ordinary can of the kind used for filling coal-oil lamps, to which a two or three-foot piece of rubber tubing is attached, which has an end tube of brass small enough to go through a keyhole; this,

<sup>1</sup> *Pacific Med. Jour.*, Jan., 1901.

placed on a tripod and heated is all that is necessary to disinfect properly; strong heat must be used so as to vaporize quickly.

The 40 per cent. solution should be mixed with an equal bulk of saturated solution of boric acid, or a 2 per cent. solution of either borax, chloride of calcium or chloride of sodium, all of which prevent polymerization; about 20 oz. of the mixture are necessary to each 1,000 cubic feet. This does not preclude previous scrubbing of the room and furniture with a solution of formaldehyde, nor clothes being soaked in it for twenty-four hours. The room must be kept closed for at least eight hours.

A useful deodorizer for a patient's room can be made by mixing equal parts of 40 per cent. solution of formaldehyde and alcohol, adding a few drops of oil of lavender; this, sprinkled on the floor in small quantities, causes no inconvenience, and is very effective. Oppermann uses a 60 per cent. solution of the gas in methylic alcohol, calling it holzin. Trillat adds chloride of calcium and names it formo-chloral. Rosenberg mixes menthol with formaldehyde, calling it holzinol. Schlossman thinks glycerin adds to its antiseptic properties. There is on the market a polymerized form of formaldehyde under the names of paraform, paraformaldehyde and triformol. [The scientific name is trioxymethylene.]

Orth's solution for microscopic work is made of 100 parts of Müller's fluid and 10 parts of the 40 per cent. formaldehyde solution, mixed just before use.

Kaiserling's solution for the preservation of pathological specimens is as follows:

Formaldehyde (40 p.c. sol.)	750 parts
Potassium Nitrate.....	10 parts
Potassium Acetate.....	30 parts
Distilled Water.....	1000 parts

The specimen is kept twenty-four hours in the liquid, transferred to alcohol (80 per cent.) for twelve hours, then to alcohol (95 per cent.) for two hours, and finally placed in equal parts of water and glycerin, to which 30 parts of potassium acetate have been added. If the specimen is kept in the dark it will not change color.

#### SOME OF THE COMBINATIONS OF FORMALDEHYDE

*Amyloform* is a white, colorless powder, made by subjecting starch to the action of formaldehyde; is insoluble in most media, sterilizable and non-poisonous, and used as a dusting powder.

*Glutol*, or *formacoll*, as produced by Schleich, is made by subjecting isinglass to the vapors of formaldehyde; it comes in a coarse powder.

*Dextroform* is produced by the action of formaldehyde on dextrin. It is soluble in water and glycerin. A 10 to 20 per cent. solution of it is useful in gonorrhea.

*Formaldehyde-tannin-albuminate* is made by subjecting tannin albuminate to formaldehyde; the idea is to render the compound more resistant to the action of the gastric juice. It is split up into its three constituents in the lower intestines.

*Formaldehyde-casein* (formalbumin) is an inodorous, tasteless, coarse, yellow powder, and is used as a surgical antiseptic.

*Formin*, also known as *urotropin*, is a combination of formaldehyde and ammonia, and is used to increase excretion of uric acid [and as a general urinary antiseptic; chemical name, hexamethylene-tetramine; formula,  $(\text{CH}_2)_6\text{N}_4$ ].

*Saliformin* is a salicylate of formin, soluble in water and alcohol.

*Formalid* is a ready-made mixture. Its formula has not been given.

*Formopyrine* is made by the action of formaldehyde solution on antipyrine solution. White crystals are obtained insoluble in cold, but soluble in hot water, and forming salts with acids.

*Formoformin* consists of formaldehyde, 0.18 per cent.; thymol, 0.10 per cent.; zinc oxide, 34.44 per cent.; starch, 65.28 per cent.

*Geoform* and *creoform* are formed by interaction of guaiacol or creosote, respectively, with formaldehyde. They have no odor, no taste, are non-toxic and non-irritant; soluble in alcohol, ether, benzol, potassium hydrate; insoluble in water and benzine. They are possessed of powerful antiseptic properties.

*Eka-iodoform* is iodoform containing one-twentieth per cent. of paraformaldehyde, which is said to dissociate in presence of iodoform with formation of gaseous formaldehyde.

*Formatol* (composition not given) is a disinfectant dusting powder containing formaldehyde.

*Euformol* is an antiseptic mixture, containing oil of eucalyptus, oil of wintergreen, thymol, menthol, boric acid, fluid extract of wild indigo, and formaldehyde.

*Galloformin* is a mixture of gallic acid and formaldehyde; it is unstable, said to yield the gas under the influence of acids or alkalis. It is in hard, opaque needles, soluble with difficulty in water, alcohol, ether and glycerin; insoluble in benzol, olive oil; decomposed by heat.

*Glycoformol* is a mixture of formaldehyde and glycerin.

*Iodothymoform*, or *iodo-thymol-formaldehyde*, is made by heating thymol with

formaldehyde, precipitating with strong hydrochloric acid, washing and dissolving in alcohol, to which a solution of iodine and potassium iodide is added, producing a yellow precipitate, nearly odorless; soluble in alcohol, ether, chloroform, benzol, olive oil; insoluble in water and glycerin. Its melting point being high it can be sterilized by heat.

*Lanoform* is an ointment containing 1 per cent. of formaldehyde.

*Polyformin*.—The *insoluble* article is made by dissolving resorcin in aqueous solution of formaldehyde and adding excess of ammonia. It is an odorless, colorless, yellowish-brown amorphous powder used as a bactericide.

*Polyformin-soluble* is a combination of 2 molecules of resorcin with 1 of hexamethylene-tetramine, and occurs in white crystals; soluble in water and alcohol; insoluble in benzol and oils. Used externally in skin diseases; internally as an antiferment and diuretic.

*Protogen* is an albuminoid compound, not coagulable by heat; obtained by the action of formaldehyde on serum or egg albumen. It is a dietetic food, and may also be used in the form of an enema.

*Steriform chloride* is composed as follows: Formaldehyde, 5; ammonium chloride, 10; pepsin, 20; sugar of milk, 65.

*Steriform iodide* has the same composition with the exception that the ammonium chloride is replaced by ammonium iodide.

*Sterisol* is an antiseptic preparation made up of formaldehyde, potassium phosphate, sodium chloride, lactose, and water.

*Tannoform* or *methylene di-tannin* is obtained by the addition of formaldehyde to an aqueous solution of tannin and precipitated with hydrochloric acid. *Tannoform* is insoluble in water, soluble in alkalies. Used externally in dermatology; internally for intestinal catarrh.

*Quinoform*, *querciform*, *quebrachinoform*, and *krameroform* are produced by the same process as *tannoform* on the respective cinchona, oak, quebracho, and rhatany tannins.

*Tannopine*, or *tannon*, is a condensation product of 13 per cent. hexamethylene tetramine and 87 per cent. tannin. This forms a light-brown powder, tasteless and somewhat hygroscopic; insoluble in water, weak acids, alcohol, and ether; soluble in weak alkalies. Used in chronic enteritis and typhoid fever.

*Thymoform* is a product of the reaction between thymol and formaldehyde; it occurs in a yellowish, tasteless powder with a slight odor of thymol; soluble in ether,

alcohol, chloroform, olive oil; insoluble in water, petroleum, glycerin. Used for the same purposes as iodoform and dermatol.

There are, besides the foregoing, a number of proprietary preparations, as tooth-washes, soaps, ointments, toilet preparations, containing formaldehyde, showing for a comparatively new germicide and deodorant a popularity not attained by any other chemical substance.

## IODINE HYPODERMICALLY IN PULMONARY TUBERCULOSIS<sup>1</sup>

By Alfred C. Croftan, A.M., M.D.

THE author states that iodine is notably a drug of marked peculiarities: some people can take large doses of it with impunity, others are speedily and violently affected by almost incredibly small doses; the mucous membrane of the respiratory tract is peculiarly susceptible. When the system becomes saturated with iodine, almost any of the manifestations of inflammation may supervene, such as coryza, angina, laryngitis, with hoarseness, aphonia, and chronic inflammation, even simulating laryngeal phthisis; the lungs may show congestive oppression and hemoptysis may occur. All these effects, it must clearly be understood, are remote effects of the drug, and follow the administration of iodine, no matter in which way it has been administered; they must not be confounded with its local irritative action following inhalation or topical application.

Studying further the symptomatology of incipient tuberculosis, we find that essentially the same tissues are stimulated to a reactive display of energy by the tubercle virus as by iodine; this drug should therefore, in the light of our theoretical beliefs, act curatively in pulmonary tuberculosis. The difficulty, though, is in the dosage; for if a carefully graded and sufficiently small dose of iodine will exercise a curative effect in this disease, then a large dose should aggravate it by over-stimulating and consequently exhausting the very cells that are by their reaction counteracting the toxin invasion. This statement is borne out by clinical experience. Accurate dosage is, therefore, the most important essential in the iodine treatment of tuberculosis; this exactness in dosage cannot be obtained by the internal administration of the iodides, nor by the inunction of iodine preparations; the only exact method is the hypodermic method, and while the author was laboring over the problem how to overcome the ir-

<sup>1</sup> *Jour. Amer. Med. Assoc.*, Nov. 17, 1900.

ritating properties of iodine so as to make it susceptible of hypodermic administration, he came across a paper by Klingmüller,<sup>2</sup> in which experiments with iodipin, an addition product of iodine with sesame oil, were detailed. The results reported were so favorable that the author at once undertook a trial with the drug on patients in whom a positive diagnosis of pulmonary tuberculosis had been made. The 10 per cent. preparation was used by the author; the injections were made into subcutaneous tissues between the skin and the muscle, and preferably in the gluteal and intrascapular regions. No discomfort of any kind was ever caused, no inflammatory reaction observed at the site of the injections, though some patients received daily injections for a period of three or four months. Beginning with 1 drop of iodipin, which, to give the necessary bulk for hypodermic administration, was dissolved in about half a dram of sterilized oil, the injections were gradually increased by 1 drop each day. The dosage was regulated by the symptoms; as soon as an improvement became apparent, the dose exhibited at the time was continued for a period of thirty to sixty days; more than 60 minims a day have so far never been given. "The results obtained by this plan of treatment have been uniformly good; in a few cases amelioration of symptoms was marked from the beginning; appetite improved, the cough and night-sweats grew less severe, and the patients gained in weight and improved in spirits. The physical signs were modified and seemed to show that the process was at least being held in check and rendered latent." In all, 27 cases have been treated by the author; 19 were cases of incipient tuberculosis with only circumscribed areas of infection in either one or in both apices; in the other 8, larger areas in one or both lungs were involved; in 7 of the 27 cases streptococcus infection coexisted; the remaining 20 were simple infections. The author says that though 27 cases is rather a small number to draw definite conclusion from, nevertheless it seems to him more than a coincidence that of the 27 cases on record all improved under iodipin injections; the results are certainly sufficient to encourage further investigation.

Dr. H. A. Hare (*Therap. Gazette*) calls attention to the importance of non-operative treatment of the milder forms of hemorrhoids. He commends the use of the conical dilator, rubbed with a 10 per cent. ointment of ichthyol in hydrous wool-fat.

## CALCIUM IODATE AS AN EXTERNAL AND GASTRO-INTESTINAL ANTISEPTIC<sup>1</sup>

By William Mackie, M.A., M.D., Aberd.

FOR the past fifteen months Dr. Wm. Mackie has been experimenting extensively with calcium iodate as a surgical antiseptic. The results obtained by him have been highly favorable. The reason for the antiseptic action of the salt is not hard to find, says the author. It is an iodine compound containing 51 per cent. of iodine and in addition 16 per cent. of available oxygen. In contact with putrescible organic matter, whether in an acid or alkaline medium, iodine is slowly liberated. In alkaline solution, while the organic matter is being oxidized by the oxygen set free from the decomposing iodate, the iodine slowly reforms iodates by the decomposition of water. The iodate so reformed, in contact with another portion of putrescible matter, yields further proportions of free oxygen and iodine to act as before, and so on. The process is, so to speak, a continuous one. As most pathological discharges are alkaline, we have present in such cases the necessary conditions for the continuous action of the iodate. If the iodate be brought in contact with hydrochloric acid—as in the gastric juice, chlorine is liberated. Upon the latter property depends its value as a gastro-intestinal antiseptic. The calcium iodate is also an excellent deodorizer, and this it owes to its property of decomposing sulphuretted hydrogen, and other volatile sulphur compounds.

The preparation of the salt is very easily accomplished by double decomposition between a solution of chlorinated lime and a solution of iodine and potassium iodide. The salt is in the form of a crystalline, white powder, odorless and tasteless, and is slightly soluble in water (1 in 380 parts at about 52° F). To ascertain its antifermentative properties, several experiments were made. Some urine was put into two test-tubes. To one test-tube was added an equal amount of saturated solution of calcium iodate, to the other an equal amount of distilled water. After two weeks the urine in the control test-tube stunk abominably, while the tube with the iodate was perfectly fresh and exhaled a somewhat aromatic odor, which could not in any way be associated with urine. It remained perfectly fresh and sweet for over three months, when the test-tube was broken.

A grain and a half of the iodate was added to an ounce and a half of milk, taken directly from the house supply. It was al-

<sup>2</sup> *Berl. klin. Woch.*, June 19, 1899.

<sup>1</sup> *Lancet*, No. 4035.

lowed to stand freely exposed to the air for five days, and at the end of this time it was found perfectly sweet and palatable, and was drunk with impunity.

A third experiment was made. Half an ounce of exceedingly fetid pus from an empyema which had burst through the diaphragm was shaken up with a few grains of the dry salt. In ten minutes the foul odor had practically disappeared, though only a small portion of the salt had dissolved.

Clinically the author has used the iodate in a great variety of affections: in ulcers, sinuses, carious bones, suppurating glands, otorrhea, etc., several of which he reports in detail. He reaches the following conclusions: Calcium iodate is an excellent substitute for iodoform, its advantages over the latter being the absence of smell, the checking of fetor, the prevention of hypergranulation and the inhibition of pus formation. Besides, it can be used in cases where iodoform is inadmissible—for example, in gargles and mouth-washes, for washing out the bladder, vagina or uterus, etc. Internally the author has used the drug but little, but he can testify to its efficacy in checking fermentative processes in the stomach from personal experience. The average internal dose for an adult the author states to be 3 or 4 grains.

#### OLIVE OIL IN TYPHOID FEVER

Dr. Owen F. Paget,<sup>1</sup> of Western Australia, advocates in the highest terms the rectal use of olive oil in all cases of typhoid fever. The method of treatment consists in slowly injecting into the rectum about a pint of olive oil every twelve to twenty-four hours. The oil should be retained in the bowel twelve to twenty-four hours, if possible. If not returned by this time, it may be brought away with an ordinary soap and water injection, a fresh dose of oil being administered two or three hours later. After a week or ten days the daily use of the injection can be discontinued, and they are given only when the temperature rises or when the bowels become constipated. In diarrhea the oil acts excellently, and will be found more efficient than opium, bismuth preparations, or any other drug. Occasionally, the author gives in addition to the oil small doses of calomel— $\frac{1}{10}$  to  $\frac{1}{2}$  grn.—and as a tonic he gives a mixture of ammonium carbonate, glycerin, and a decoction of cinchona. According to the author, patients treated in the above manner *cannot* die (sic); it also prevents sequelæ, tympanites, perforations or heart-

failure. "The most unskilled nursing is sufficient." Its only drawback, the writer states, occurs in private practice, where patients recover so easily that the physician receives no credit at all. To the possible charge that his cases may not have been typhoid, he replies by saying that a number of his cases were examined for the Widal reaction, and it was found in nearly all.

The olive oil is also useful in enteric inflammations other than typhoid. In the case of the writer's own child, aged two and one-half years, who nearly died from enteritis (not typhoid) accompanied by a recrudescence of malarial fever, and who on recovering from the acute stage passed casts of the intestine daily, the condition was completely cured in from two to three weeks by injections of olive oil, after protargol and other remedies had been used in vain. The author says that the statement made that olive oil given per rectum has been found post-mortem in the stomach less than twenty-four hours after administration is of extreme importance, if true; as it shows that the beneficial effects of the oil extend above the ileo-cecal valve.

#### STRYCHNINE POISONING—RECOVERY

Dr. William Dick<sup>1</sup> reports a case of recovery from a large dose of strychnine. A soldier, disappointed at not having been sent to South Africa, swallowed an ounce of solution of strychnine hydrochlorate [the liquor strychninæ hydrochloridi B. P. is 1 per cent. strong; consequently the man had taken about  $4\frac{1}{2}$  grains of strychnine. Ed.] He had eaten a hearty dinner half an hour before making the attempt at suicide and an hour after symptoms developed: he was at once given an emetic of mustard. The spasms becoming very severe, chloroform was administered. During the administration vomiting set in, with spasm of the glottis; as breathing stopped and the patient was apparently dying, tracheotomy was performed. His condition improved, and his stomach was then emptied by a stomach pump and washed out with a 1 to 1000 solution of potassium permanganate. On recovery from the anesthesia, violent convulsions set in, but they were kept in check by chloroform, which was administered off and on for fifteen hours. During the next two days he was very restless, his hands and feet exhibiting choreiform movements, but otherwise his recovery was uneventful. The tracheotomy tube was removed in twenty-four hours, and the wound healed by first intention.

<sup>1</sup> *Lancet*, Dec. 8, 1900.

<sup>1</sup> *British Med. Jour.*, 1900, No. 2079, p. 1311.

# Progress in Materia Medica and Drug Therapy

## A PASTE FOR ERYSIPELAS

A topical application of a paste made of equal parts of ichthyol and hydrous wool-fat acts almost as a specific when applied and kept on the inflamed skin.<sup>1</sup> The paste should be smeared liberally over some old muslin and renewed morning and evening. This should be supplemented by a purge of calomel and soda, each 5 to 10 grains, followed in twelve or fourteen hours with the administration of a dram of magnesium sulphate dissolved in a goblet of water. Isolation and rest, with light nutrient diet for a few days—and recovery will nearly always take place.

## PHYTOLACCA IN TONSILLITIS AND MASTITIS

Dr. G. T. Collins<sup>2</sup> states that fluid extract of phytolacca used internally and externally rarely fails to abort an acute attack of tonsillitis. When the disease has progressed too far to be aborted, the phytolacca improves the symptoms and hastens the crisis. He also considers it a specific in inflammation of the mammae, whether in the puerperium or not. Used locally and internally (10 to 12 min. every four hours), the drug prevents suppuration and promptly restores the gland to its normal condition.

## THYROID IN PSORIASIS WITH INSANITY

Dr. H. de Maine Alexander<sup>3</sup> reports the case of a man, aged 33, who eight months previously had developed psoriasis, for which he had been treated without any effect. He left his situation, wandered about the country for a day or two, and then gave himself to the police, as he was frightened and had suicidal feelings. He was declared insane, and admitted to the asylum. The psoriasis was well marked on the extremities, buttocks, back, and chest; itching and hyperemia were prominent, and the scalp in a seborrheic condition. He was depressed, suspicious, and his memory was impaired. He was put to bed and thyroid tablets, in 15-grain doses three times a day, were administered. On the third day a marked change in the mental condition was observed. He woke up from his confused lethargy, appeared quite collected, read a newspaper, and took an interest in his surroundings. His improvement was steady. The thyroid was reduced to 5 grains a day on the eighth day, and this amount was given daily for another

week. The psoriasis had entirely disappeared by the end of the fourth week, leaving very little scarring. He had lost 16 pounds in weight during the treatment, but he soon regained his lost flesh. He was discharged cured two months after admission and eighteen months later had had no return of the skin or mental affection.

## RHEUMATIC FEVER IN CHILDREN

Dr. H. Heiman<sup>4</sup> states that in the treatment of acute rheumatic fever in children there are no drugs which can replace the salicylates or their derivatives; but in order to obtain the best results, he uses them in a manner similar to the one in which quinine is used in malaria. It is well known that in order to prevent relapses of malarial fever we give quinine for a specified period, even when the patient is apparently well and cured of his acute attack. Just so the author administers the salicylates; after the acute local and constitutional symptoms have subsided and the patient is apparently cured, the exhibition of the salicylates is continued in 3- to 5-grain doses three times a day for one week of each month, for about a year or longer. The theory upon which this prophylactic treatment is based, is that the bacteria and their toxins may remain dormant in the economy for a long period after the disappearance of the acute symptoms, and there is probably no antitoxin produced in the system to immunize it from subsequent attacks, as is the case in a number of other infectious diseases.

## NITROPROPIOL TABLETS: NEW TEST FOR SUGAR

The tablets appearing in the market under the name nitropropiol, consist of ortho-nitro-phenyl-propionic acid combined with sodium carbonate, and constitute, according to Dr. Franz Gebhardt,<sup>5</sup> a very delicate and convenient test for glucose in the urine. The test is performed very simply: 10 or 15 drops of urine are mixed with 10 Cc. (2½ dr.) of distilled water, a tablet is added, and the whole is carefully and gently heated for two to four minutes; if sugar be present, indigo is formed and the solution acquires a deep indigo-blue color; where the amount of sugar is so small that the color is not distinct enough, the latter becomes intensified on the addition of chloroform, which dissolves the indigo. The test was tried with different samples of urine, containing gallic acid, uric acid, al-

<sup>1</sup> *Public Health Jour.*, Nov., 1900, p. 431.

<sup>2</sup> *Med. World*, 1900, p. 430.

<sup>3</sup> *Lancet*, No. 4032.

<sup>4</sup> *Pediatrics*, Jan., 1901.

<sup>5</sup> *Munch. med. Woch.*, Jan. 1, 1900.

bumin, blood, phosphate, and in every case the result was entirely negative. But the color made its appearance as soon as a few drops of solution of dextro-glucose or of sugary urine was added to the sample under consideration. If the urine contains *much* albumin, it must be removed first before applying the test. The test was applied to samples of urine of patients who were taking different drugs, such as benzoic acid, carbolic acid, guaiacol, iodine, rhubarb, salicylic acid, senna, and turpentine, and in no case did a blue color make its appearance. This nitropropiol test, therefore, possesses not only a high positive value, but a negative value as well. Its sensitiveness is also very great, the blue color making its appearance when the glucose is present in the proportion of 1 in 2000 (1 grain in about 4 oz. of urine). The test is not applicable to quantitative estimations.

#### A SUBSTITUTE FOR THE IODINE SALTS

The following is an extract from an editorial in an esteemed contemporary:<sup>1</sup>

The best salt for the administration of iodine has not yet been determined. Some practitioners employ only potassium iodide, and perhaps this is the most popular. Those who administer iodides in very large doses, and who treat a large number of cases, are partial to sodium iodide; a few prefer mixed iodides, using sodium, ammonium, and potassium salts in varying proportions. A wide experience, we think, will convince most practitioners that the sodium salt is by far the least deleterious, causes less disturbance of the stomach and less iodism. It is generally believed that the alterative properties of these salts depend upon the iodine which they contain.

One unpleasant feature of the iodine salts is their bad taste. To some their taste is so offensive as almost certainly to cause some gastric intolerance. Some patients cannot take the iodine salts because of the profound disturbance which they cause, and the administration of considerable doses is not devoid of dangerous effects, such as alarming prostration, cardiac weakness, and edema of the lungs. A well-marked peculiarity is the fact that large doses are not more liable to be followed by severe iodism than moderate or even small doses. Certainly the administration of large quantities of fluid with the iodides is one of the best means of avoiding iodism.

A number of substitutes have been sought for the iodine salts, and a satisfactory one has been found in hydriodic acid, where

small quantities are to be administered, meaning by this a quantity equivalent to 10 or 15 grn. of the potassium or sodium salts. When it is desired to obtain a rapid saturation of the system by the administration of very large doses, as in cases of syphilis of the central nervous system, in which several hundred grains are to be administered each day, the acid cannot be employed.

Of late a substance called iodipin has been highly spoken of in numerous foreign journals. It is a feeble organic combination of iodine, forming an oily liquid. It is easily absorbed, rapidly decomposed, and under its effect there is a quick saturation of the system with iodine. It may be given by subcutaneous injection, when it is claimed to be entirely free from irritating properties. It may also be administered in capsules and by the mouth, in the same manner that oily substances are generally administered, in wine, beer, or milk. The fact that this substance can be administered hypodermically is an important item. Many cases of nervous involvement following syphilitic infection are so rapid that a day or two is of very great importance in limiting the spread of the disease. In such cases it might be wise to supplement the internal use of the iodides or iodipin with the administration hypodermically of the latter substance. Perhaps it will prove satisfactory in those cases in which there is a marked intolerance for the iodides. Possibly this is the iodine compound which has long been looked for, that is to enable us to institute alterative treatment devoid of many of the disagreeable accompaniments of the administration of ordinary iodides. The reports so far that have appeared in the medical journals are very favorable, and seem to warrant an extensive trial of the drug.

#### TREATMENT OF MOSQUITO BITES

Dr. A. Manquat<sup>1</sup> has treated numerous cases of mosquito bites with various substances, and has come to the conclusion that the most efficient applications are formaldehyde, tincture of iodine, and alcohol, or eau de cologne with menthol. The solution of formaldehyde the author uses consists of: Formaldehyde (40 per cent.), 1 dram; alcohol and water, of each 2 drams. As to the relative efficiency of the above-mentioned substances, formaldehyde takes the first place, but it causes considerable burning and sometimes even inflammatory reaction, and must be applied several times in succession. Tincture of iodine leaves a

<sup>1</sup> *Medicine*, Jan., 1901, p. 42.

<sup>1</sup> *Bull. gén. de Thérap.*, Nov. 15, 1900.

stain, produces desquamation of the skin and can, therefore, not be used very well on exposed portions of the body. For ordinary cases the application of alcohol or eau de cologne with menthol will, therefore, be found more satisfactory.

#### REVIEW OF DIONIN

Dr. J. Bresler,<sup>1</sup> in reviewing the literature of dionin, states that it is a white, odorless, bitter tasting, crystalline powder; it dissolves readily in 7 parts of water, and the solution is neutral, on which account dionin is especially suitable for injection. The preparation of this remedy was suggested by Von Mering, of Halle, and he was probably led to do so by the observation that ethyl compounds have a stronger and comparatively more agreeable action than corresponding methyl compounds, as, for instance, is shown in the case of sulfonal and trional, phenacetin and methylacetin, etc.

According to Korte,<sup>2</sup> whose observations were made in the Danzig city hospital, dionin is a very trustworthy remedy for the treatment of the irritating cough accompanying incipient pulmonary phthisis; he recommends its use in place of codeine or morphine in all cases of that disease which are not too far advanced; but especially in chronic bronchitis, emphysema of the lungs and in bronchial asthma. Dionin is distinguished from morphine by its milder narcotic action, by scarcely ever disturbing the digestive organs, and by not producing any appreciable by-effects; as compared with codeine, it generally appears to act more powerfully and to have a more lasting effect, producing better and more tranquil sleep, while in a marked degree facilitating expectoration. Korte is of the opinion that as a general alleviator of pain, dionin is not so much to be relied upon as morphine; but that it is far less likely to create a habit, for which reason it is to be recommended in chronic and painful diseases without exposing patients to the risk of morphinism. He gave dionin in doses of  $\frac{1}{4}$  grn. several times daily, and  $\frac{1}{2}$  grn. at night in aqueous solution, syrup or pill form.

While the high opinion of the value of dionin in diseases of the respiratory organs held by the above-mentioned author is shared by all observers, Bloch<sup>3</sup> considers that its peculiar power of relieving pain is greater than has generally been thought; he also speaks of the absence of disagreeable by-effects of dionin as compared with other morphine preparations, for even when

given to the extent of  $\frac{3}{4}$  grn. at one dose, either subcutaneously or *per os* or *per rectum*, he has never experienced any bad effects, while in the case of morphine doses of  $\frac{1}{4}$  grn. are sometimes productive of very bad symptoms. Dionin is also free from the constipating action of morphine, and its narcotic effect is less than that of morphine or codeine. In sexual affections of women, Bloch used dionin with great success as a solution of 6 grn. in 5 dr. of cherry-laurel water, given in doses of 15 to 20 drops several times during the day.

In the treatment of cases of morphine habit, the use of dionin is said to have especial importance when cocaine, opium, bromides, etc., have failed, and as compared with the use of codeine for the same purpose dionin appears to have a decided advantage. Fromme<sup>4</sup> has employed it repeatedly for that purpose; when he has reduced the dose of morphine to  $\frac{3}{8}$  or  $\frac{1}{2}$  grn., and the patient still feels tolerably well, he substitutes an equal dose of dionin; he found that, just as in the case of codeine, dionin does not produce euphoria or any similar condition, but only a modification of the abstinence symptoms. An accumulative action, as in the case of morphine, does not take place, on account of the more prompt elimination of dionin. He recommends that after entirely withdrawing morphine the dose given at first should not be too small. Fromme observed in one-quarter or half an hour after the injection of dionin a rather vigorous but by no means distressing irritation of the skin, subsiding after some time, and leaving the patient with increased pulse, refreshed and comfortable, "a sign that the heart action, lowered by withdrawing morphine, is stimulated by dionin." According to Fromme, dionin in doses of more than  $\frac{1}{2}$  grn. causes or promotes sleep during the cure of morphine habit, an important consideration in this trouble.

Heinrich<sup>5</sup> has also used dionin in the treatment of morphine habit and, like other observers, especially praises its excellent physical properties; the solutions are absolutely neutral, and consequently do not cause pain when injected, as the acid solutions of codeine do; moreover, the aqueous solutions of dionin can be kept longer without undergoing decomposition than solutions of either morphine or codeine. All his observations promise a successful future for the drug. In the treatment of morphine habit he recommends the administration of one-third more than the dose of morphine that would be taken in a particular case. He makes especial reference to the circumstance that as compared with morphine

<sup>1</sup> Canadian Jour. of Med. and Surg., Nov., 1900.



there is with dionin an absence of stupefying intoxicating effects produced by the former; that after injection of dionin he had observed irritation of the skin, and in the case of sensitive persons the production of blotches, but added that these effects are common to morphine and all its derivatives.

P. Heim<sup>6</sup> has used dionin in the Kaiser Franz-Joseph Ambulatorium at Vienna; he reports that among all the patients he has treated with dionin apparently there was only one instance in which it created a habit of such a nature that the patient could not do without it, though without requiring increase of the dose. Heim makes particular mention of the effect produced by dionin in alleviating pain and tendency to coughing, as well as producing sleep. It was effectual that way in several cases of neuralgia where trional, sulfonal and chloral had failed. According to Heim, dionin is much more effectual in producing sleep than codeine, but not so certain as morphine. He gives a caution against the use of large doses in congested catarrh of the lungs, and adds "dionin is a very serviceable preparation which stands between codeine and morphine in its action, and deserves to have an extensive application as an anodyne, hypnotic, and sedative. According to previous experience, its administration does not appear to give rise to the production of a habit except in abnormal instances. Unpleasant accessory effects have been noticed only in the case of disordered conditions of the heart, but as a rule they are absent. The effect of dionin appears to be equally prompt when administered by the rectum or per os.

Higier<sup>7</sup> has used dionin chiefly in affections of the respiratory organs, especially in consumption, and he has confirmed the reports of its excellent action.

Hoff<sup>8</sup> mentions two bad cases in which injections of  $\frac{1}{8}$  grn. of morphine were used, and then gives the results obtained with dionin. He found that in experimenting on an animal with  $\frac{1}{8}$  grn. of dionin (intravenous) the ex- and inspirations were prolonged, in consequence of which the oxidation of the blood is more complete and the effect of respiration greater. In cases of influenza with bronchial inflammation and irritating cough he administers the following:

Sodium Bicarbonate..... 75 grn.  
Dionin..... 3 to 4  $\frac{1}{2}$  grn.

Divide into 10 powders; 1 three times a day.

or, in high fever:

Sodium Bicarbonate } of each, 30 grn.  
Quin. Hydrochlorate }  
Dionin..... 3 to 4  $\frac{1}{2}$  grn.

Divide into 10 powders; 1 three times a day.

In cases of acute or chronic bronchitis:

Sodium Bicarbonate..... 2  $\frac{1}{2}$  dr.

Ammon. Chloride..... 5 to 8 grn.

Dionin..... 3 to 5 grn.

Divide into 10 powders; 1 three times a day.

He also recommends its use in cases of pulmonary phthisis. He speaks highly of the effect of dionin in alleviating pain, and has also found it efficacious in the treatment of morphine habit as well as nervous insomnia, and in the latter cases has found it cause a reduction of the abnormal blood-pressure from 180 Mm. to 140 or 120 Mm. The patients slept from four to six hours.

Ransohoff<sup>9</sup> reports on the action of dionin in psychoses, and the results obtained by him are more favorable than those obtained by Sturmhofel<sup>10</sup> and Freimuth.<sup>11</sup>

Schröder<sup>12</sup> states at the end of his report on observations made by him at the Hospital for Pulmonary Diseases at Hohenhonnef on the Rhine, that "Dionin removes or alleviates the irritating cough and induces sleep, often prolonged, the patients feeling relieved and quieter. In some instances the action of dionin was decidedly more favorable and more marked than that of equal doses of codeine; it produces much the same effect as we are accustomed to see produced by corresponding doses of morphine, and without in general causing the disagreeable effects of morphine. Increased difficulty of expectoration and tendency to constipation were noticed only in a few instances, and in one case there was increased perspiration.

Finally, it may be mentioned, that, according to the thorough physiological investigation of Winternitz<sup>13</sup> as to the influence of morphine derivatives upon the respiration in human subjects, the advantage of dionin and codeine consists in their power to reduce the irritability of the air passages without affecting the respiration, a circumstance that is of great importance in the case of children and enfeebled invalids.

Dionin has also been employed in ophthalmic practice by Wolffberg, who states that the effect produced upon the eye is analogous to that caused by jequirity, and has a favorable influence upon inflammatory conditions of the cornea so far as they are not due to affections of the conjunctiva. He also states that the use of dionin is to be recommended in the treatment of wounds after all operations on the eyeball.

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**ALCOHOL AS AN ANTIDOTE TO CARBOLIC ACID**

Dr. Herman A. Klein<sup>1</sup> corroborates by some personal experiences the statements of other writers as to the efficiency of alcohol in carbolic-acid poisoning. About 2 oz. of carbolic acid had been thrown into the face and hands of a woman. He arrived about fifteen minutes after the occurrence, and bathed the parts freely with alcohol for about half an hour. Marked improvement took place at once; pain was diminished, and the skin assumed a healthier color; later, carron oil was applied. In about a week the patient was perfectly well, without a mark on her face. In another instance a woman drank 2 oz. of carbolic acid. She was seen ten minutes later by the writer, who administered 4 oz. of alcohol every half hour for three doses, then 1 oz. every hour for four doses. He also administered  $\frac{1}{4}$  grn. of morphine hypodermically, and repeated the injection in two hours. The patient was discharged well in six days.

The third case illustrates the value of carbolic acid and alcohol in surgical practice. A man received a serious injury in the arm, and it became infected. Carbolic acid—95 per cent.—was applied to the infected wound for a minute at a time, followed by alcohol. After four applications the infection disappeared, the patient making an uneventful recovery.

**TOXIC ACTION OF SODIUM CACODYLATE**

Dr. Wm. Murrell<sup>2</sup> warns against the careless and indiscriminate use of sodium cacodylate, stating that the claim that it is absolutely innocuous even in large doses is not borne out by the facts, as a case under his care well illustrates. The patient was a young woman suffering from moderately advanced phthisis. He ordered 1 grn. of the drug in pill form three times a day. The sodium cacodylate was carefully selected and obtained from a well-known manufacturer in Paris. After taking eleven pills the patient suddenly developed symptoms of arsenical poisoning. She suffered from constant nausea and vomiting; there was complete anorexia, the tongue was raw and irritated, the conjunctivæ inflamed and the eyelids edematous. The breath had a gangrenous odor, there was tenderness and deep pressure along the course of the nerves, and the patient was unable to move the left leg or extend the left wrist. On suspending the treatment the acute symptoms subsided in twenty-four hours, but the loss of power in the leg and wrist persisted for three days. Of course it is

possible, the author states, that his patient was particularly susceptible; but, anyhow, if he ever prescribes sodium cacodylate again, it will be in much smaller doses than those recommended by the French physicians. [In the *ARCHIVES* of December, 1900 (p. 488), mention is made of an analogous case in the practice of Dr. Schoull, of Tunis.—Ed.]

**ICHTHYOL IN SMALLPOX**

Dr. M. Kamneff<sup>3</sup> reports having used ichthyol in the treatment of a number of cases of smallpox with most excellent results. He applied the drug in the form of a 12 to 20 per cent. ointment. From the very first day of treatment there is a marked amelioration of all symptoms. The duration of the disease is shortened, and—what is most important—no marks are left on the face or elsewhere.

**VERATRINE IN PRURITUS**

In the obstinate pruritus of women at the menopause Dr. Lutaud<sup>2</sup> recommends the external application of veratrine, if the pruritus is localized. He orders an ointment of  $2\frac{1}{2}$  grn. of veratrine to an ounce of lard, to be applied morning and night. If the pruritus is general he orders the drug internally:  $\frac{1}{180}$  grn. in pill form once a day, gradually increased to six times a day, half an hour before meals or three hours after meals.

**IODOLE EXTERNALLY IN TUBERCULOSIS**

Dr. T. Mellod-Tyson<sup>3</sup> has used iodoles for the past two years in all his cases of consumption at the Rush Hospital, with marked improvement in the various symptoms. In the advanced cases the improvement was only temporary, but in the incipient ones it continued as long as the patients were under observation. The improvement covered general conditions, strength, weight, cough, expectoration, dyspnea, appetite, and even physical signs. In some of the incipient cases the cough and expectoration disappeared entirely, while in others they diminished gradually; the greatest change in the physical signs was a diminution in intensity in the abnormal breathing sounds. The previously harsh bronchial or broncho-vesicular sound became soft and the expiratory sound seemed to be less marked. Râles that were heard over the affected area seemed to be markedly diminished and in some cases to disappear altogether.

<sup>1</sup> *Jour. Amer. Med. Assoc.*, XXXV, p. 1557.

<sup>2</sup> *Brit. Med. Jour.*, No. 2086.

<sup>3</sup> *Therap. Monatsh.*, Dec., 1900, p. 682.

<sup>2</sup> *Jour. de méd. de Paris*, No. 11, 1900.

<sup>3</sup> *Jour. of Tuberculosis*, Jan., 1901.

The iodole was used as follows: A solution was made containing 20 grn. of the drug to an ounce of olive oil; the quantity rubbed in was a dram three times a day, increased gradually to half an ounce three times a day. The rubbing is done by the patient himself, which operation takes about ten minutes. The patients also received strychnine ( $\frac{1}{26}$  grn. three times a day), and enjoyed good nourishing food and outdoor exercise.

#### METHYLENE BLUE IN VESICAL TROUBLES AND AS AN ANTIMALARIAL

Methylene blue (medicinal) has given Dr. Stucky<sup>1</sup> good results in vesical irritability, and as an antimalarial. It is a very useful substitute for quinine. In hematuria of malarial origin it has given him better results than any drug that he has used. He gives it in 3-grain doses three times a day until the urine becomes thoroughly blue. In enlarged prostate and irritation of the bladder in the aged, characterized by much mucus in the urine, methylene blue has proved of the greatest service in the author's hands. In many cases of malaria the drug proved successful and caused the disappearance of the plasmodia after quinine had proved ineffectual, and this fact alone is, in the author's opinion, sufficient justification for making the drug official in our Pharmacopœia.

#### TREATMENT OF DISEASE OF THE MYOCARDIUM

In this, as in any other disease, endeavor should be made to remove, or at least mitigate, the exciting cause, says Prof. Solomon Solis-Cohen.<sup>2</sup> As alcohol, tobacco, tea, and coffee, sexual excesses, mental strain, and physical overwork (whether in actual labor or sports), are among the chief provocatives of diseases of the myocardium, they are to be prohibited or generally restricted. Discretion must be exercised in the reduction of mental and physical activity, because the nervous worry induced by idleness may be so injurious as to overbalance any possible benefit. Nitroglycerin in small doses to reduce the action of the heart is almost always in order; sometimes so little as  $\frac{1}{400}$  grn. twice a day will be sufficient. The diet is, of course, to be carefully regulated and the skin and eliminative functions should always be looked after. Warm, carbonated, saline baths, with massage and gently resisted movements (the Nauheim treatment) have proved of great benefit in the author's hands. As to exercise, great judgment is required in each

individual case. In the gouty, in the early stages, moderate exercise is often beneficial; when severe symptoms are present, absolute rest becomes necessary.

Among drugs to strengthen the heart, improve its nutrition, and regulate its action, strychnine is the most generally useful. Digitalis may also be used occasionally, and of the digitalis preparations the author, with Beates, prefers Merck's German digitalin. Other heart tonics are adonis (a good extract or the glucoside adonidin), sparteine sulphate, caffeine, cactus, and strophanthus. Whatever drugs are used, none should be continued for a long period, but judicious alternation should be resorted to. Combinations will sometimes act better than single drugs. Arsenic is useful as a general nutrient, and so are iron and gold, and sodium chloride. In syphilitic cases mercurial inunctions, hot baths, and potassium iodide in full doses are indicated. In tobacco heart small doses of potassium iodide are useful. In gouty cases the strontium salts—the bromide, iodide, and lactate, this last being an excellent diuretic—should be given. In acute conditions of cardiac incompetence, whether in the course of chronic valve and muscle disease or arising suddenly, without previous disease, venesection is usually indicated. The heart cannot empty itself, the patient is in great danger, and blood should be drawn promptly, fearlessly, and in sufficient amount to afford relief.

#### ICHTHARGAN IN ACUTE AND CHRONIC GONORRHEA

Dr. Lohnstein<sup>1</sup> gives an account of this new remedy, with special reference to its employment in gonorrhea. Ichthargan possesses a special interest, because it combines the properties of two valuable medicinal substances, ichthyol and silver. In theory, such a combination ought to possess great antibactericidal properties, and the recently-made experiments of Aufrecht show that this supposition is correct.

In regard to its clinical application, Leistikow has been using ichthargan for a year, and reports the best results in recent gonorrhea. The strength of solution employed varied from  $\frac{1}{100}$ th per cent. to  $\frac{1}{50}$ th per cent. Injections of this solution were begun at the very first of the attack. The usual balsamics were given inwardly.

Ichthargan is a brown, amorphous powder, with an odor resembling that of chocolate. The act of smelling this substance causes violent sneezing. The amount of silver in ichthargan is 30 per cent., the metal

<sup>1</sup> *Med. Times*, 1900, p. 261.

<sup>2</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 2.

<sup>1</sup> *Med. Rev. of Rev.*, 1900, p. 951.

existing in combination with organic, strongly sulphurized substances, which are derived from the ichthyol sulpho-acids. Ichthargan is readily soluble in water, glycerin, dilute alcohol, ether, and chloroform. A concentrated solution is precipitated by solutions of salt and of albumin.

The author has thus far applied this remedy in 187 cases of gonorrhea, of which number 124 were acute, and 31 of the latter primary cases. Of these 31 cases, 24 were cured by ichthargan *alone*. Four would not yield to the new remedy, and were treated otherwise, while the remaining 3 gave up the treatment prematurely.

The author applied the solution in the form of a douche. The urethra having been cocaineized, a soft catheter was introduced, and a warm, weak solution was allowed to enter by gravity from a moderate height. This management was not provocative of any unpleasant accidents. Out of the 187 cases of gonorrhea treated by irrigation, there was only one complication of epididymitis. The irrigation strength of the ichthargan solution was 1:4,000 or 1:5,000. This strength could be increased to 1:2,000 in select cases. Of the 24 cases which recovered, 10 were cured in from two to three weeks, while the other 14 required from three to six weeks.

Of the large number of cases of acute gonorrhea which were non-primary, the author obtained three cures within two weeks, 40 cures in from two to four weeks, etc. He believes that in ichthargan we have a remedy for urethritis which is unirritating, while powerful in its astringent and bactericidal action.

#### CAN PNEUMONIA BE ABORTED?

Dr. J. Paffrath<sup>1</sup> thinks that it can. His remedy consists in a combination of antifebrin and Dover's powder, which he administers every three or four hours, day and night, until the temperature becomes nearly normal. The doses of the drugs for each powder are: Antifebrin, 6 to 8 grn.; Dover's powder, 4 to 5 grn. The powders are interrupted when the temperature falls to 100.4° F., to be resumed when it rises higher. This treatment was used by the author in many cases of pneumonia of the severest type, and with strikingly favorable results. In not a single case has the author noticed any collapse or any other untoward symptoms following this treatment. He considers the weakening and depressing action which the untreated fever exerts on the heart much more dangerous and ru-

inous than the effects of the antipyretic. Antifebrin, in combination with pure opium, acted much less favorably than when in combination with Dover's powder.

#### CHLORAL EXTERNALLY IN LUMBAGO

Dr. Lafont<sup>1</sup> recommends chloral as an external application in lumbago and sciatica. He uses a mixture of equal parts of chloral and olive oil, which is rubbed in thoroughly night and morning. Following the application, there is an intense reddening of the skin and severe smarting, but that disappears shortly and the pains are then also greatly diminished. From 2 to 2½ oz. of the mixture are used daily.

#### EUNATROL IN HEPATIC COLIC

Dr. Carlier<sup>2</sup> reports the case of a woman who tried various treatments for the relief of frequent attacks of gallstone colic with which she suffered, but without success. During one of these attacks he gave her eunatrol in 4-grain doses, repeated every hour until 1 dram was taken. From the first hour the pains, which would otherwise subside only under the action of morphine, became considerably milder. The patient continued to take the eunatrol for five days—1 dram per day. There was no gastric disturbance of any kind, and from the third day the stools were regular.

#### SODIUM SALICYLATE GARGLES

Dr. Cheveller<sup>3</sup> treats all kinds of tonsillitis with gargles of sodium salicylate: 1½ to 2 dr. in 5 to 6 oz. of peppermint water. The average duration of the disease under this treatment was four days: the temperature soon declined, the pain in the throat and the difficulty in deglutition disappeared rapidly, and in no case did an abscess form.

#### ICHTHYOL IN ERYTHEMA NODOSUM

The following interesting case is reported by Dr. Alexander Brownlie,<sup>4</sup> of Redcar, England. A woman patient, aged fifty-five, while convalescing from a severe attack of influenza, complained of acute pains in the arms and legs. The characteristic nodes soon made their appearance, being especially marked on the extensor surfaces of both legs and on the left arm near the elbow. Temperature rose to 102° F. The pain was very great, the patient being hardly convinced that she was not suffering from open sores. After having used a number of remedies without any benefit,

<sup>1</sup> *Gaz. de hôpitaux*, No. 132, 1900.

<sup>2</sup> *Klin.-therap. Woch.*, No. 48, 1900.

<sup>3</sup> *Klin.-therap. Woch.*, No. 2, 1901.

<sup>4</sup> *Brit. Med. Jour.*, Jan. 5, 1901, p. 17.

<sup>1</sup> *Deut. med. Zeit.*, No. 42, 1900.

the author decided to try ichthyol in the manner recommended by Boulland.

He paints the affected parts with the following solution: Ichthyol, 2 dr.; alcohol and ether, of each 3 dr. The effect was most marked, the relief being immediate. The burning pain was greatly diminished after the first application, and disappeared altogether in a day or two, the temperature at the same time becoming normal. Salophen in 15-grn. doses was used internally. It is well to note that the way in which the ichthyol solution is prepared is important. The alcohol and the ether must first be mixed, and then the ichthyol added. If the ichthyol is put into the bottle first, and the other ingredients added, an insoluble sediment is formed.

#### IODINE IN LIVER SPOTS

Dr. M. Porosz<sup>1</sup> states that the best means of removing pityriasis versicolor, or liver spots, is tincture of iodine. It is the most rapid as well as the least disagreeable method. In from three to four days after painting the spots with the strong tincture the skin begins to desquamate, which process is completed in four to five days. The separated epidermis takes along with it the spores and mycelia of the parasitic fungus.

#### METHYL SALICYLATE IN CHORDEE

Dr. Baratier<sup>2</sup> has had under treatment three gonorrheal patients, who suffered with extremely painful nocturnal erections. Baths were ordered, and large doses of vichy, and an ointment consisting of 1 part of methyl salicylate and 10 parts of vaselin was applied to the penis, which was then wrapped with a thin layer of cotton and a light bandage. In all these cases the pain disappeared very shortly after applying the ointment, and the erections were also subdued to a certain degree.

#### TREATMENT OF HEADACHES

In the treatment of the various forms of headache and migraine, Dr. Hugh T. Patrick<sup>3</sup> relies principally on cannabis indica, and this preference is based on purely empirical grounds. But he emphasizes that results will be largely determined by two factors: The quality of the preparation of the drug and by individual susceptibility. Some preparations on the market are utterly worthless; again, the author has seen 3 drops of the fluid extract produce distinct symptoms in a big and vigorous young man, while 60 drops from the same bottle

failed to produce the slightest effect on either of two ladies. The author commences with 3 to 4 drops of the fluid extract after each meal; the amount is rather rapidly increased until the limit is reached for the case in hand—that is, until distinct physiological effects make their appearance—when the dose is diminished just within the limit and held there indefinitely. The author says that cannabis indica thus given will materially alleviate the great majority of cases of headache. Occasionally a course of bromides or of nitroglycerin, or of the two combined, or Mendel's mixture of sodium salicylate, sodium bromide, and aconitine has proved effective, given regularly.

#### OLUT KOMBOOL IN DYSMENORRHEA

Olut Kombool is the Indian name of *Abroma Augustum*, a large shrub growing in the temperate parts of India. According to Dr. B. M. Siscar<sup>1</sup> the fresh acid sap from the plant is very useful in dysmenorrhea. It is administered from two days before the expected period, during it, and for two days after. The author has had forty years' experience with the drug and claims that a single treatment will cure dysmenorrhea, if it be of the congestive or neuralgic form. It is also very efficacious in bringing about conception. On dysmenorrhea depending upon mechanical causes or on organic diseases of the uterus the drug has little or no action.

#### BROMIPIN IN EPILEPSY

Dr. Wilhelm Lorenz<sup>2</sup> used this drug in thirty-four cases of genuine epilepsy and has found that it does not disturb the appetite, and that most of the patients gained weight under its use. It was usually administered as the 10 per cent. preparation, of which from 4 to 6 drams were given in a day, a dose which corresponds to from 25 to 50 grains of sodium bromide. The attacks were well controlled and no sequelæ were observed from the employment of bromipin.

#### GELATIN IN HEMORRHAGES

Dr. Max Wagner,<sup>3</sup> of Curschmann's clinic, reports on the employment of gelatin in various kinds of hemorrhage. The cases in which it was used were those of severe hemorrhage in pulmonary tuberculosis, in intestinal hemorrhage in typhoid fever, in gastric hemorrhage from ulcer of the stomach, and in one case of hemorrhage due to sepsis. From 5 to 7 fluid ounces of a warm, neutral 2 per cent. solution of gelatin in a

<sup>1</sup> *Klin.-therap. Woch.*, 1900, No. 1464.

<sup>2</sup> *Bull. gén. de Thérap.*, 1900, p. 639.

<sup>3</sup> *Medicine*, VII, p. 8.

<sup>1</sup> *Indian Med. Gazette*, 1900, p. 172.

<sup>2</sup> *N. Y. Med. Jour.*, Dec. 1, 1900, p. 995.

<sup>3</sup> *Berl. klin. Woch.*, XXXVIII, No. 1.

normal salt solution were injected subcutaneously. In the cases of pulmonary hemorrhage the effects were remarkably favorable; almost in every case there was either a great improvement or a complete cessation of the hemorrhage a short time after the administration of the gelatin. This took place even in those cases in which all the usual remedies failed. In the three cases of typhoid hemorrhage the effects were not so striking. In no case were there any unpleasant by-effects noticed.

#### SODIUM FORMATE IN PNEUMONIA

Dr. A. Polenor,<sup>1</sup> a Russian military physician, reports having treated thirteen cases of croupous pneumonia with adonis vernalis and sodium formate. The drugs were administered as follows:

Adonis Vernalis (leaves)..... 30 grn.

Boiling Water ..... 6 oz.

Infuse, strain, and dissolve in the strained liquid:

Sodium Formate ..... 30 to 60 grn.

Tablespoonful every two hours, day and night.

According to the author's observation, this treatment has the effect of moderating the fever and of shortening the duration of the disease. Especially favorable was the effect in those cases in which the formate was administered from the very commencement of the attack, and in quite large doses, for instance, 60 grains in twenty-four hours. The drug was always well borne.

#### RUBIDIUM IODIDE IN CORYZA

In a preliminary note, remarkable for its laconic brevity, Prof. G. Jacotini<sup>2</sup> announces that he treated ten cases of acute coryza with rubidium iodide and effected a complete cure in all within a very few days. This fact, he says, is of great importance from a prophylactic point of view, when we consider the great number of morbid processes in the respiratory tract which have their origin in an obstinate coryza of long duration. The author promises to publish his experience in full later.

#### TREATMENT OF INFANTILE CONVULSIONS

Dr. Jacob Goetz<sup>3</sup> states that the following plan has proved very successful in the treatment of this distressing and often dangerous condition. The child is given a rectal injection of 2 to 3 pints of normal saline solution, after which a warm solution of 8 to 24 grn. of chloral hydrate [is not the dose too large?] is injected into the rectum and the child is put into a hot mustard bath. Care is to be taken that the liquid does not

reach the eyes. After the skin has become thoroughly red, the child is put to bed and covered warmly. As a rule, in a short time profuse perspiration sets in and the child falls into a restful sleep. Of course, when the convulsions are caused by organic disease of the brain and nervous system, by epilepsy, acute poliomyelitis, etc., the treatment will prove of temporary value only. The author believes that convulsions *may* be caused by the attempts of a tooth to break through, and in such cases lancing the gums will prove beneficial.

#### TO REMOVE HARDENED CERUMEN

Dr. G. C. Savage<sup>4</sup> states that for many years he had been in the habit of softening and removing wax from the ears by the aid of sodium bicarbonate, glycerin, and water. This solution had to be instilled into the ear two or three times a day for one or two days before the wax would be soft enough to be removed by the syringe. Some two years ago he read about the excellent effect of hydrogen dioxide on hardened wax, and has adopted this method since then with excellent results. The peroxide is warmed and allowed to remain in the auditory canal five or ten minutes, and usually in this short time it will soften the hardest kind of wax so that it can be readily removed with a stream of water. If the accumulation of wax be of recent origin it will be dissolved by the peroxide.

#### BENZIN IN SEBORRHEA

Dr. R. W. Leftwich<sup>5</sup> makes the statement that neither alkalies nor fats are very satisfactory agents for the removal of dry seborrheal crusts. As the crusts consist chiefly of fat, he thought benzin would be a good solvent, and accordingly tried it on a thick crust of seborrhea sicca, which had resisted other means. The whole patch disappeared in about two minutes. As the benzin leaves the hair and scalp very dry, he prescribes the following inunction:

Castor Oil.....	} of each, 1 ½ oz.
Bay Rum.....	
Tinct. Cantharides.....	2 dr.
Cologne Water.....	4 dr.

This is used every morning, while the benzin is used about once in five days. The effect of the benzin on the baldness following seborrhea is also very satisfactory. To conceal the odor more or less, the author advises the addition of 10 min. of oil of geranium to each ounce of benzin. In mild cases of seborrhea, the benzin is mixed with equal parts of alcohol.

<sup>1</sup> *La Sem. méd.*, 1900, p. 406.

<sup>2</sup> *Il Morgagni*, XI. II, p. 785.

<sup>3</sup> *Klin.-therap. Woch.*, VIII, No. 2.

<sup>4</sup> *Medicine*, Feb., 1901.

<sup>5</sup> *Brit. Med. Jour.*, No. 2088.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analyzed before being submitted to our readers.

### Influenza:

Acetanilid..... 1 dr.  
Alcohol..... sufficient to dissolve  
Tinct. Gelsemium.....  $\frac{1}{2}$  dr.  
Syrup Ginger..... to make 2 oz.

Teaspoonful every three hours.

Phenacetin..... } of each, 3 grn.  
Antipyrine..... }  
Euquinine..... 3 grn.  
Caffeine..... 1 grn.  
Ext. Belladonna.....  $\frac{1}{6}$  grn.

For 1 capsule. One three or four times a day.

The doses of the first two ingredients may be increased to 5 grn. in each capsule.

Quinine Salicylate..... 3 grn.  
Phenacetin.....  $2\frac{1}{2}$  grn.  
Camphor.....  $\frac{1}{8}$  grn.

For 1 powder or capsule. One every four hours.

Euquinine..... 1 dr.  
Sodium Benzoate..... 2 dr.  
Caffeine..... 30 grn.  
Dionin..... 10 grn.

Divide into 30 capsules. One three or four times a day.

Sodium Benzoate..... } of each,  $1\frac{1}{2}$  grn.  
Antipyrine..... }  
Salol..... 1 grn.  
Caffeine.....  $\frac{1}{4}$  grn.

For 1 powder. One every three hours to a child five to six years old.

Camphor..... 12 grn.  
Phenacetin..... } of each, 30 grn.  
Salol..... }  
Codeine..... 3 grn.  
Ext. Belladonna..... } of each, 2 grn.  
Ext. Gelsemium..... }  
Oleoresin Ginger..... 3 min.

Make into a mass, lege artis, and divide into 12 capsules. One every two hours at first, the intervals being gradually lengthened to six hours.

### Frost-bites:

Ichthyol..... 2 dr.  
Wool-fat..... 6 dr.

(Relieves pain almost immediately.)

Acetanilid..... 48 grn.  
Wool-fat..... to make 1 oz.

(For raw frost-bites.)

Silver Nitrate..... 5 grn.  
Distilled Water..... 1 oz.

Paint affected part frequently and wrap in cotton.

### Frost-bites:

Ichthyol..... }  
Resorcin..... } of each, 1 dr.  
Tannic Acid..... }

Water..... 5 dr.

Apply with brush at night. —BOECK.

Ichthyol..... 3 dr.  
Oil Turpentine..... 1 dr.  
Lanum..... 2 oz.

Spread on a piece of gauze and apply when the skin is unbroken.

Carbolic Acid..... 16 drops  
Oint. Lead Carbonate..... } of each, 5 dr.  
Wool-fat..... }  
Expr. Almond Oil.....  $2\frac{1}{4}$  dr.  
Oil Lavender..... 20 drops.

—LASSAR.

The first treatment in frost-bites is to restore the circulation. The frozen part is not to be brought near a fire or into a warm room, until it has been thoroughly rubbed with ice, snow, or cold water and the circulation has been improved.

### Chilblains:

Spirit Chloroform..... 2 dr.  
Belladonna Liniment..... 4 dr.  
Comp. Tinct. Benzoin..... 2 dr.  
Soap Liniment..... 3 oz.

To be applied on lint, but not to be rubbed in.

Sulphurous Acid..... 3 dr.  
Glycerin..... 1 dr.  
Distilled Water..... 1 oz.

Apply on lint to the affected part.

Ichthyol..... }  
Resorcin..... } of each, 10 grn.  
Tannin..... }  
Camphor Water..... 1 oz.

Apply locally two or three times a day.

### Convalescence from Influenza:

Ext. Nux Vomica..... 4 grn.  
Sodium Arsenate..... 1 grn.  
Quinine Salicylate..... 30 grn.  
Hemogallol..... 2 dr.

Divide into 30 capsules. One three times a day after meals.

### Lumbago and Muscular Rheumatism:

Menthol..... 20 grn.  
Salicylic Acid..... 1 dr.  
Chloral Hydrate..... } of each, 40 grn.  
Camphor..... }  
Powd. Capsicum..... 90 grn.  
Croton Oil..... 5 drops  
Petrolatum..... to make 2 oz.

Rub in vigorously, a small quantity at a time. (A remarkably efficacious application.)

### Acute Articular Rheumatism:

Salicylic Acid..... } of each, 1 dr.  
Oil Wintergreen..... }  
Menthol..... 2 pints  
Alcohol..... 1 oz.

Paint over affected joint with camel's-hair brush every four hours, and wrap up in cotton. When skin begins to peel off, interrupt for a day or two, applying in the meantime the following ointment:

Bismuth Subnitrate..... } of each, 1 dr.  
Zinc Ox. (finely powd.)..... }  
Hydrous Wool-fat..... } of each,  $\frac{1}{2}$  oz.  
Cold Cream..... }

**Acne, Pimples or Blackheads:**

Resorcin.....	1 grn.
Beta-Naphthol.....	} of each, 12 grn.
Camphor.....	
Precip. Calcium Carbonate....	15 grn.
Precip. Sulphur.....	1½ dr.
Petrolatum.....	1 oz.
Wool-fat.....	to make 2 oz.

Bathe the face in hot water, followed by a thorough rubbing with a rough towel, then apply the ointment. Use night and morning.

**Intertrigo and Acute Eczema:**

Camphoric Acid.....	1 part
Bismuth Subnitrate.....	} of each, 2 parts
Zinc Carbonate.....	
Powd. Starch.....	
Petrolatum.....	
Anhydrous Wool-fat..	

**Acne Due to Digestive Derangement:**

Creosote.....	½ min.
Cerium Oxalate.....	2 grn.
Pepsin U. S. P.....	1 grn.
Strychnine Sulphate.....	1/100 grn.
Tinct. Belladonna.....	2 min.
Podophyllotoxin.....	1/10 grn.

For 1 capsule. One to be taken after each meal, and at bedtime, if necessary.

**Locally—**

Salicylic Acid.....	20 grn.
Oil Eucalyptus.....	10 min.
Boric Acid.....	30 grn.
Oint. Zinc Oxide.....	} of each, 4 dr.
Oint. Rose Water....	

—SHOEMAKER.

**Styes:**

Boric Acid.....	1 dr.
Dist. Ext. Witch-hazel.....	2 dr.
Distilled Water.....	to make 4 fl. oz.

Apply on a piece of absorbent cotton several times a day.

**Conjunctivitis, Styes, Etc.:**

Corrosive Sublimate.....	⅓ grn.
Petrolatum.....	1 oz.

Apply to eyelids.

Sublimed Sulphur.....	45 grn.
Ammonium Chloride.....	15 grn.
Spirit Camphor.....	1½ dr.
Rose Water.....	1½ oz.

Apply to eyelids.

Yellow Mercuric Oxide.....	1 grn.
Glycerin.....	a few drops
Wool-fat.....	1 oz.

**Lithemia:**

Sodium Bicarbonate.....	15 grn.
Aromatic Spts. Ammonia.....	10 min.
Comp. Infusion Gentian to make	1 oz.

For 1 dose. One three times a day, five minutes before meals.

Or the following as an alterative and tonic:

Solut. Potassium Arsenite.....	3 min.
Tinct. Nux Vomica.....	5 min.
Ammonium Carbonate.....	4 grn.
Spts. Chloroform.....	8 min.
Infusion Quassia.....	to make 1 oz.

For 1 dose. One three times a day after each meal.

**Varicose Ulcers:**

Carbolic Acid.....	30 min.
Boric Acid.....	2½ dr.
Camphor.....	2 dr.
Ichthyol.....	5 dr.
Expr. Oil Almond.....	2½ dr.
Ointment Zinc Oxide.....	3½ oz.

Powd. Iodoform.....	} of each, 2 dr.
Powd. Salol.....	
Bismuth Subnitrate....	
Powd. Charcoal.....	
Powd. Cinchona.....	
Powd. Benzoin.....	

Use as a dusting powder.

**Orchitis:**

Morphine Sulphate.....	16 grn.
Oleate Mercury.....	2 oz.

Apply twice a day to the indurated part.

**Gonorrhea:**

Fl. Ext. Ergot.....	15 min.
Tinct. Gelsemium.....	5 min.
Potassium Bromide.....	20 grn.
Tinct. Hyoscymamus.....	30 min.
Syrup Orange.....	to make 4 dr.

(As an anaphrodisiac.) Shake. One dose at bedtime.

Menthol.....	⅓ grn.
Salicylic Acid.....	1½ grn.
Carbolic Acid.....	} of each, 3 grn.
Lactic Acid.....	
Oil Eucalyptus.....	
Methyl Salicylate.....	
Resorcin.....	8 grn.
Distilled Water.....	3 oz.

Use as an injection twice daily. Pousson has used this mixture with excellent results, stating that the principle of mixing several antiseptics gives better results than can be derived from any single one in a strong solution.

**Night-sweats of Tuberculosis:**

Balsam Peru.....	15 grn.
Formic Acid.....	75 min.
Chloral Hydrate.....	75 grn.
Absolute Alcohol.....	3½ oz.

Apply externally. If a still stronger application is wanted, 15 min. of trichloroacetic acid may be added.

**Cardiac Stimulant:**

Caffeine.....	} of each, 15 to 22 grn.
Sodium Salicylate.....	
Sparteine Sulphate.....	6 grn.
Ammonium Acetate.....	15 grn.
Distilled Water.....	1½ oz.

A teaspoonful every half hour till three doses have been taken.

**Leucorrhea:**

Potassium Chlorate.....	75 grn.
Wine Opium.....	1 dr.
Tar Water.....	4 oz.

As a douche. Add 2 or 3 teaspoonfuls to 1 quart of warm water.

The following combination of creolin and hydrastis contains the antiseptic properties of the one and the astringent properties of the other:

Creolin.....	2 dr.
Powd. Ext. Hydrastis, to make	2 oz.

As a douche. One tablespoonful to a quart of warm water twice a day.



**Leucorrhea:**

Tannic Acid.....	5 dr.
Alcohol.....	3 dr.
Creosote.....	2 dr.
Water.....to make	4 oz.

As a douche. A teaspoonful to 1 quart of warm water three times a day.

**Vulvitis:**

Solut. Lead Subacetate.....	1 dr.
Tinct. Hyoscyamus.....	2 dr.
Camphor Water.....to make	8 oz.

Lotion. Saturate cloth and apply lotion tepid.

**Menorrhagia:**

Salipyrine.....	} of each,	2½ dr.
Potassium Bromide.....		
Fl. Ext. Viburnum Prunifolium.....	5 dr.	
Distilled Water.....	6 dr.	
Syrup Orange.....	1¼ oz.	

One teaspoonful to be taken in the evening the fifth day before the expected period, the same quantity morning and evening on the fourth and third days, 3 teaspoonfuls on the second day, and 4 teaspoonfuls on the day before and on the day of the appearance of the menses.

**For Uric-Acid Gravel:**

Sodium Bicarbonate.....	1½ dr.
Benzoic Acid.....	½ dr.
Sodium Phosphate.....	2½ dr.
Boiling Water.....	6 dr.
Dissolve, filter, and add—	
Distilled Water.....	6 oz.

A tablespoonful three times a day.

**Lumbago:**

Tinct. Opium.....	2 dr.
Ammonia Water.....	1 dr.
Tinct. Cantharides.....	3 dr.
Soap Liniment.....	10 dr.

Apply by rubbing in thoroughly.

**Oxaluria:**

Dil. Nitric Acid.....	} of each,	5 min.
Dil. Hydrochlor. Acid.....		
Infusion Serpentaria.....		1 oz.

For 1 dose. One three times a day.

**Alkaline Diuretic Mixture:**

Potassium Acetate.....	} of each,	5 dr.
Potassium Citrate.....		
Potassium Bicarb.....		
Water.....to make		8 oz.

One teaspoonful every three or four hours.

**Dyspepsia (with sour eructation):**

Bismuth Subnitrate.....	4 dr.
Mucilage Acacia.....	1 oz.
Sodium Bicarbonate.....	4 dr.
Infusion Calumba.....to make	8 oz.

Shake. One tablespoonful after meals.

**Compound Hepatic Pill:**

Powd. Ipecac.....	1/3 grn.	
Powd. Black Pepper.....	1 grn.	
Sodium Bicarbonate.....	{ of each,	3 grn.
Mass Mercury.....		

For 1 pill. One every two hours after supper until three have been taken, followed in the morning before breakfast by a saline purgative.

**Hepatic Colic (Gall-stones):**

Ext. Belladonna.....	½ grn.
Ext. Opium.....	2 grn.
Oil Theobroma.....	sufficient

For 1 suppository; make four such. Insert one; the second an hour afterward; third, two hours after this; fourth, two hours after third.

Apply over the region of the liver a flax-seed poultice made with laudanum. Give the following internally:

Sodium Bicarbonate.....	1 dr.
Distilled Water.....	3 oz.
Simple Syrup.....	1 oz.

One teaspoonful every half hour, alternating with:

Citric Acid.....	1 dr.
Distilled Water.....	3 oz.
Syrup Lemon.....	1 oz.

One teaspoonful every half hour.

**Migraine Accompanying Anemia:**

Ext. Cannabis Indica.....	⅓ grn.
Arsenous Acid.....	1/100 grn.
Reduced Iron.....	1 grn.

Make into 1 pill. One three times a day.

Ext. Cannabis Indica.....	⅓ grn.
Powd. Digitalis.....	½ grn.
Ferrous Lactate.....	2 grn.

Make into 1 pill. One three times a day after meals.

**Neuralgia, Myalgia, and Rheumatism:**

Tinct. Aconite.....	} of each,	2 dr.
Tinct. Belladonna.....		
Tinct. Opium.....		4 dr.
Spt. Chloroform.....		1 oz.
Spt. Camphor.....to make		4 oz.

Apply locally.

**Influenza in Children:**

Sodium Benzoate.....	} of each,	30 grn.
Antipyrine.....		
Camph. Tinct. Opium.....		4 dr.
Sparteine Sulphate.....		2 grn.
Pure Ext. Licorice.....		1 dr.
Syrup Tolu.....to make		2 oz.

Shake well. Teaspoonful four times a day for a child six to eight years old.

**Pulmonary Tuberculosis:**

Atropine or Atropine Sulph.....	½ grn.
Aromatic Sulphuric Acid.....	1 oz.

Ten drops at 4 P.M., and ten drops before going to bed. The last dose may be increased to twenty drops. (For night-sweats. Practically infallible. A sponge bath of alum is a good adjuvant.)

Morphine Hydrochlorate.....	⅓ grn.
Cocaine Hydrochlorate.....	1½ grn.
Sodium Chloride.....	3 grn.
Sodium Cacodylate.....	.75 grn.
Carbolic Acid Solution (5 %).....	2 drops
Distilled Water.....	3¼ fl. oz.

For hypodermic injection. From 1 to 3 drams of this solution may be injected per day.

—DANLOS.

Calcium Phosphate.....	} of each,	4 grn.
Menthol.....		
Sodium Bicarbonate.....		3 grn.
Powd. Nux Vomica.....	} of each,	⅓ grn.
Iron Lactate.....		

One such dose to be taken four times daily.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects.

**The Strain of Modern Life.**<sup>1</sup>—Mankind are, physically speaking, mere bundles of specialized nerves, acting and being acted upon by the external world. That world is plunged in an atmospheric bath, in which they are subjected to heat, light, electricity, magnetism, and their concomitants: wind, dust, rain, and many other agencies. In addition, their nervous systems encounter through life alternating tensions of hope, disappointment, pleasure, joy, and pain. And besides all this is often the added burden of habits of living born of ignorance or disregard of natural laws.

It is no wonder, then, that the mimic death in sleep should be indispensable for the refreshment of the human organism, to enable it to withstand to the best advantage the touch of disease, decline, and death. It is no wonder that, under these conditions, the span of human life is no longer than it is. Of its general increase with sanitary knowledge there would seem to be no reason to doubt; but that, with that increase have come greater nervous excitability and corresponding diseases, there would seem also no reason to doubt. Some years ago an investigation by physicians of London went to show that the nervous strain of journeying to and from the city every day diminished longevity. The vibration of cars, once suggested as the cause, is inadequate to account for the consequence. It is to be found in the unremitting activity of brain to which, awake or asleep, the nervous system is subjected. To men so situated, the refreshment of sleep is lessened, and "the intensive life," as Dr. Hufeland called it, is not husbanded with the strictest economy.

It would be inconsistent with knowledge of evolution not to hold that now, as formerly, all life must at every instant and stage tend to conform to exterior conditions. Now, it is undeniable that the relation of human life to those conditions has markedly changed within thirty years. Human life, within the confines of the highest civilization, is now struggling to keep pace with conditions which its own agency has produced. Instead of the world's being represented, as formerly, by slight intercommunication, it is now momentarily in correspondence throughout its extent, and these closer relations of the present as compared with those of the past have the same effect as though the earth had collapsed to a fraction of its size. The foundations of society, as for centuries maintained, have been swept away. The struggle for wealth has become almost universal.

Modern society is, in its superficial aspect, a phantasm of arriving and departing forms. World-wide has appeared irreverence for things formerly sacred in the minds of men. For the first time in history there is sentiment for the wrongdoer and less for his victim. Side by side, however, with various anomalies, stands out in the most splendid relief the munificence of individual and associated men in the establishment of everything that may tend to the amelioration of the condition of mankind in their mental, moral, and physical welfare. Hospitals, schools, colleges, libraries, museums, homes, parks, are all given with lavish hands by philanthropy. Liberality of thought, too, has marched so far that its progress is manifest for the first time in history.

It is with the maelstrom of emotion generated by all this change and its consequences that the nervous system of men and women is called to reconcile itself. The present tendency is to swarm toward the industrial and social centers of population. With this comes concentration in the human hive. The diversity of sensation during the day—that is, the vibrations therefore set up in the nervous system—are a hundredfold what they were thirty years ago. In the busiest centers human beings live in a cacophony of sounds, and at any moment may be obliged to run the gauntlet of some danger. Life comes down pretty much to what, in "Eothen," Kinglake's pasha interpreted European civilization to be, as "whirr, whirr, all by wheels; whiz, whiz, all by steam."

Through the working of physiological law, sensibility becomes blunted with age. Consequently it is not the aged who have most felt the recent increased pressure of civilization in its modified form. It is not they, relatively, who suffer from nervous prostration and other evils, direct and indirect, attendant upon loss of nervous tone, in illness, stimulation, and narcotism. It is the comparatively young of both sexes, engaged in the whirl of pleasure or of money-getting, who suffer most. There is even exhaustion of vitality under the plea of healthful exercise, so much do novelty, example, and fashion tend to excess. But now, as in the time of Emerson, and ever, a continuous round of excitement sought for pleasure as an end fails of the health and satisfaction that come with plain living and high thinking in the palaces that reasonable employment and converse with the best thought of the living and dead raise by their magic in the mind.

What is to be the outcome of the present rush no one ought to be presumptuous enough to attempt with certainty to predict. The only thing certain is that the present generations, not being in exact harmony with the present exterior conditions, are now suffering from what will perhaps be removed by a future adjustment of their inner to their outer world. Only the future can, through that adaptation, decide to what degree the present phase of civilization is reconcilable with the highest mental, moral, and physical health and longevity of the human race.

### Is It Permissible for Diabetics to Use Sugar?

—In a recent clinical lecture, Professor Lépine, of Lyons, has related the case of a man, aged sixty, who had suffered from moderate diabetes for twenty years, the average daily quantity of urine being about 60 oz., containing about 1,800 grn. of sugar. Last winter, after an attack of influenza bronchitis, he became worse, lost a good deal of weight, and grew so feeble that he could hardly walk about his room. Regarding his case as hopeless, he allowed himself the indulgence of putting sugar in his wine, tea, and coffee, and to his surprise he found that small doses of sugar amounting to 600 or 700 grn. had no ill effect, but that his strength began to increase. At this stage he was seen by Professor Lépine, who found him evidently improving, and permitted him to continue to use these small quantities of sugar. Professor Lépine in his commentary recalls the fact that forty years ago the treatment of diabetes by sugar was strongly advocated by Budd, Corfe, Sloane, and others upon purely empirical grounds. The cases given in support of this practice are, in the opinion of Professor Lépine, wanting in those details which are indispensable to enable us to judge of their value, but he points out that there is nothing irrational in sup-

<sup>1</sup> John V. Shoemaker in *Med. Bulletin*.

<sup>1</sup> *British Med. Jour.*

posing that small quantities of sugar may be taken by diabetic patients without injury and even with advantage. Cane-sugar is made up of equal quantities of glucose and levulose [(?) cane-sugar can be resolved by ferments, etc., into equal parts of glucose and levulose], and of late years it has been shown that levulose can be tolerated by many diabetics in doses of from 1 oz. to 1½ oz. daily. Much also depends upon the rate at which the sugar is absorbed and the quantity taken at one time. Professor Lépine suggests that small quantities of honey, which consists almost exclusively of levulose, may be tolerated even better than cane-sugar, and he urges that it is not irrational to make carefully-guarded experiments with limited quantities of saccharine substances in the treatment of diabetes, for diabetic patients vary considerably in their tolerance of carbo-hydrate food, and this can only be determined by observation in each case.

**Exactness in Therapeutics.**<sup>1</sup>—Let us acknowledge that the high tide of therapeutic nihilism which threatened for a time to sweep away all reliance on therapeutic drugs, has served a most valuable purpose in stimulating real therapeutic progress. It has roused the profession to demand scientific proof of the efficiency of each and every agent to accomplish the purpose for which it is advised. It has led them to observe more clearly and reason more closely in ascertaining in the first place just what effects it wishes to produce in a given case, and then to discriminate more thoroughly as to just what agent, if any, will in the simplest and most nearly physiological manner accomplish the effect desired. In short, the present tendency of the profession to sweep away the vast mass of accumulated trash from the Pharmacopœia, to adopt simple alkaloid medication where needed, to relieve immediate and unnecessary suffering by definite synthetic compounds, to apply the physiological specific of animal origin whose efficiency is unerringly proved by the clinical laboratory, and to employ no remedy whose beneficial action can not be accurately demonstrated—all constitute a great stride toward scientific therapeutics which marks the doom of the old-time drug shop, but shows true therapeutic progress.

**Blue-glass Redivivus.**<sup>2</sup>—Many of our readers will recall the blue-glass fad of the late '70s, which had a brief career. While it lasted many popular articles appeared upon it, and a book was written which is still occasionally to be seen in second-hand bookstalls and elsewhere. While some individual experimentation was undertaken at the time, the subject was not considered seriously by the medical profession. It scarcely made any impression on medical literature of the day; at least, we can recall no articles of note. It was generally dropped as a popular craze and quickly passed out of fashion. Judging from present developments in phototherapy, in which the violet end of the spectrum is mainly used, it may be that there was a neglected germ of truth in the craze after all. We knew nothing then of the Roentgen or the Becquerel rays, nor do we yet know all their possibilities. Now, however, a Russian physician, A. V. Minin, reports remarkable therapeutic effects from the use of electric light passed through blue glass in arresting pain, in some forms of which—intercostal neuralgia, for example—there is, he says, nothing like it “for effectiveness and rapidity of action.” Its influence, also, in hastening the

absorption of blood or effusion is likewise remarkable as he claims, and a number of cases are reported in which these and other advantageous effects were observed. Nothing in this is attributed by the author to other agencies than the blue light, though the question naturally arises whether the influence of suggestion was not in play. With the results reported, however, the experiments are worthy of a test, especially since nothing more than an ordinary 16-candle light from a 100-volt current, passed through blue glass, is required. The exposures varied in number and length in different cases, but were usually ten or fifteen minutes in duration and repeated as required, according to the case. It is hard to see how the applications can do any harm and if there is anything in it, which cannot be absolutely denied, *a priori*, it is worth a trial.

**Hot Water for Sleeplessness.**—A most wretched “lier-awake” of twenty-five years’ standing, who for ten years thought himself happy if he could get twenty minutes’ sleep in twenty-four hours, said: “I took hot water—a pint, comfortably hot, one good hour before each of my meals, and one the last thing at night—naturally unmixed with anything else. The very first night I slept for three hours on end, turned round and slept again till morning. I have faithfully and regularly continued the hot water, and have never had one bad night since. Pain gradually lessened and went; the shattered nerves became calm and strong, and instead of each night being one long misery spent in wearying for the morning, they are all too short for the sweet, refreshing sleep I now enjoy!”—*Exchange*.

**A Remarkable Case of Trance.**<sup>1</sup>—A case of trance is under observation at the Royal Infirmary, Newcastle, which is declared to be unprecedented in English medicine. Dr. Drummond gave a demonstration on the patient to a large number of physicians. He is a clerk, aged twenty-six, who through life has been of a reserved and depressed nature and regarded as eccentric. In March he became unconscious. For seven months he has lain in a state of profound stupor, without any movement. He swallows unconsciously. But his unconsciousness was not as complete as was supposed, for now while on the road to recovery he remembered certain events which had occurred. The strongest electric current failed to elicit any response. At first he lost flesh and became a “living skeleton.” He was then fed by injections, later the stomach-pump was used, and finally he was fed in the ordinary way.

**Morphine in Surgery.**<sup>2</sup>—Morphine is the first remedy indicated in traumatic or surgical shock if accompanied by pain or hemorrhage. Therefore, morphine given hypodermically is strongly indicated in shock following injury, especially if the injury is to be followed by operation. Morphine not only controls the existence of shock, but is a very potent factor in preventing secondary shock. Morphine is indicated before the administration of anesthetics; especially is this true if the individual is addicted to alcoholic stimulants and is suffering from fever and nervousness. Although the use of morphine after abdominal operations is said to be strongly contra-indicated by such men as Price, Bernays, and others, I believe in certain cases its use has almost a specific indication. In cases where the operation is to be followed by pain

<sup>1</sup> J. T. Melvin in *Four. Amer. Med. Assoc.*

<sup>2</sup> *Four. Amer. Med. Assoc.*

<sup>1</sup> *Lancet*.

<sup>2</sup> Edw. Wallace Lee in *Med. Mirror*.

or a tendency to hemorrhage and severe shock, morphine may be given and the beneficial results justify its administration, in my hands at least. Those who oppose its use do so on the theory that it checks secretion, prevents peristalsis, and therefore favors the absorption of toxic products. In cases where it is possible to completely clean out the intestinal tract, relieve the lungs, kidneys, and liver of congestion, I do not believe a little morphine sufficient to stop pain is going to do the harm that some have given it credit for doing. Its administration should be attended with great caution and effects closely watched, but it should not be withheld when by its proper use great relief and benefit may be gained. Edward Martin has expressed himself quite emphatically on the subject, stating that morphine should be given hypodermically and in sufficient dose to accomplish the purposes for which it is given. When surgical shock is accompanied by such severe pain as to cause uncontrollable restlessness, morphine should be given in dose adequate to relieve it. The same treatment is indicated for shock or restlessness without pain (a condition usually due to hemorrhage), appropriate general treatment for shock also being carried out. Morphine is the best internal homeostatic in the treatment of hemorrhage; when the hemorrhage is complicated by restlessness, morphine is absolutely indicated because of its quieting effect, both on mind and body. When drunkards or exceptionally neurotic patients are to be anesthetized, a preliminary hypodermic injection of morphine renders such anesthesia quicker, safe, and favorably effects the stage of recovery; obstinate and exhausting vomiting after ether or chloroform is often relieved by morphine given hypodermically. If in the first twenty-four hours after operation pain becomes so severe as to cause uncontrollable restlessness, this pain should be relieved by morphine. To this rule there are practically no exceptions, it applies to all operations regardless of operator's area. When used in accordance with these indications the beneficial effects of morphine so overshadow its injurious effects that the latter are not demonstrable. To this rule there are very few exceptions.

#### The Medicinal Treatment of Chlorosis.<sup>1</sup>—

In a lecture delivered at the West London Hospital, Dr. Seymour Taylor dealt more especially with the use of iron in the treatment of chlorosis. This metal, he says, is practically regarded as a specific. Notwithstanding this, unsatisfactory results of treatment by it are not infrequent, while it constantly happens that a patient under treatment by one doctor with no good results turns to another and obtains relief. Yet iron is in the prescriptions of both. The fact is that other things besides iron are required. The old if somewhat vulgar simile, attributed to a St. Bartholomew's physician, by which a chlorotic girl is compared to cast linen, is probably correct. He is credited with saying that these patients require "washing out, ironing, and then airing," and certain it is that every preparation of iron has its value in the treatment of chlorosis considerably enhanced by a preliminary "washing out" by a course of purgative medicine. Iron, again, should be taken so as to be digested along with the food. The amount of iron in hemoglobin is infinitely small, and probably the quantity contained in a single bottle of ordinary ferruginous medicine would amply supply all the deficiency if only it were digested. The difficulty is to get it absorbed, and this is best done by so timing the dose that

the iron shall, as it were, enter the system on a vehicle of albumen.

One may summarize the conclusions arrived at in regard to the treatment of chlorosis by iron by saying—first, that the carbonate is the most efficacious remedy; second, that whatever preparation of iron be prescribed it must be fresh and free from oxidation; third, that until the intestinal canal is clear and the digestive functions are in good order no preparation of iron is of much or any avail. There are, however, other considerations to be remembered. In the dyspeptic form of chlorosis special attention to the digestive organs may be necessary for some time, several weeks, before iron is given; the neurotic form may border upon the anorexia nervosa described by Gull, and in such cases valerian may be very useful; while in the plump but very pallid and breathless type, arsenic may be given in addition to the iron. In any case, however, one must, week by week, estimate the percentage of hemoglobin in the blood. If this shows even a small improvement, the prescription may be continued, but if the amount of hemoglobin remains stationary or diminishes, another preparation of iron must be found. To get to the root of chlorosis, however, other things besides mere physics have to be considered. But that is another question.

**Christian Science and Pulmonary Tuberculosis.**<sup>1</sup>—Mrs. Eddy, in her book, misnamed "Science and Health," p. 422, 72d edition, in speaking of consumption, says:

"If the case to be mentally treated is consumption, take up the leading points (including, according to belief) in this disease; show that it is not inherited, and that inflammation, tubercle, hemorrhage and decomposition are beliefs, images of mortal thoughts superinduced upon the body; that they are not the truth of man; that they should be treated as error, and put out of thought; then these ills will disappear. If the lungs are disappearing this is but one of the beliefs of mortal mind. Mortal man will be less mortal when he learns that lungs never sustained existence, and can never destroy God, who is our life. When this is understood, mankind will be more god-like. What if the lungs are ulcerated? God is more to a man than his lungs; and the less we acknowledge matter or its laws, the more immortality we possess. Consciousness constructs a better body when it has conquered our fears of matter. Correct material belief by spiritual understanding, and spirit will form you anew. You will never fear again, except to offend God, and will never believe that lungs, or any portion of the body, can destroy you."

Yet, in spite of all that can be said by this apostle of humbugs and her disciples, we do know that consumption, or pulmonary tuberculosis, is annually the cause of more deaths than any other one disease; that one death in every eight is caused by it. It is estimated that in the United States alone 164,250 die each year from pulmonary tuberculosis, averaging 450 each day. We also know that a great many patients with pulmonary tuberculosis recover; that the death-rate has diminished at least 10 per cent. in the last ten years. This diminished death-rate depends upon several things. First, a more thorough knowledge of the disease, and better methods of treatment; second, earlier recognition of the tubercular condition and, third, recognition of the pre-tubercular condition and the prevention of the formation of tubercle.

<sup>1</sup> *Clin. Jour.*

<sup>1</sup> John North, in *Amer. Med. Compe.*

# MERCK'S ARCHIVES

## OF MATERIA MEDICA AND DRUG THERAPY

A MONTHLY JOURNAL FOR THE PRACTICING PHYSICIAN  
CONDUCTED AND PUBLISHED BY MERCK & CO.  
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FEBRUARY, 1901.

EXPERIENCE is a great teacher; but alack! he demands such dreadfully high wages, says Thomas Carlyle. Yes, but the worst of it is, that some people, while continuing to pay the dreadfully high wages, utterly fail to profit by the teachings. We can derive more benefit from one case carefully and analytically studied than from a dozen cases treated in a slipshod, unsystematic manner.

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It is dangerous to meddle with quackery lest we give it undue prestige. Induced by the high claims made for a certain treatment for tuberculosis, a prominent hospital in this city decided to give the treatment a fair trial. After three months' continuous trial, the treatment was seen to be worthless and the special "apparatus" was ordered removed from the hospital. Nevertheless, the promoters of the new method continue to claim in their announcements and advertisements that their method has been introduced and is in daily use in the . . . hospital of New York City. The advertisements are spread before the masses, while the statement of the hospital authorities appears in the pages of the medical journals only.

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THE word "vegetable" seems to possess a peculiar charm for the laity. In their minds it appears to be synonymous with "harmless," "pure," "innocuous." And this in spite of the fact that the most violent poisons are derived from the vegetable kingdom. The entire mineral kingdom, for instance, does not contain a single poison

equal in virulence to, say, abrin, aconitine, atropine or curare. Nevertheless, the word "vegetable" will probably continue to grace the labels of ready-made medicines for some time to come. But we were greatly surprised to see a hypnotic mixture, containing among other things potassium bromide and chloral hydrate, referred to in an advertisement to the medical profession as "a vegetable hypnotic."

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EACH step towards progress and civilization must be fought for and each reform must have its victims. The brutal and cowardly practice of hazing has been abolished at West Point, but the crushing out of a young human life was the price paid for the abolition. How many lives and constitutions have been ruined yearly by this degrading and altogether unpardonable practice?

\*\*\*

NONE are so blind as those who will not see. In spite of the thousands upon thousands of experiences, in which the inestimable value of vaccination as a protective against smallpox has been clearly and undeniably demonstrated, the anti-vaccinationists are again rampant, trying to rouse the people against what they are pleased to call the tyranny of the boards of health, and endeavoring to frighten the populace by painting the "horrors" of vaccination. The cranks ye shall always have with you.

\*\*\*

IN the *Philadelphia Medical Journal* (Jan. 26) there appears a manly letter from the pen of Harold N. Moyer, in which the doctor apologizes for the derogatory remarks made in his presidential address before the Mississippi Valley Medical Association concerning Dr. Jacobi's discourse before the International Medical Congress. He states that he based his opinion on more or less fragmentary reports which he supposed were authoritative. Now, after reading the full text, he has obtained a very different impression, as per the following excerpt from his letter: "Instead of apologizing, Dr. Jacobi pays a splendid tribute to the American medical profession, alike free from overstated claims, or hypocritical self-depreciation." The writer concludes as follows: "I certainly very much regret the reference to Dr. Jacobi's address, but feel that I must in part be exonerated, as I accepted statements which seemed authoritative. The whole matter reveals a phase of medical journalism that I little suspected."

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

H. H. M. writes: Is Formaldehyde given internally in cases of pus in the urine, gonorrhea, etc.? Can its presence in the urine, when taken internally, be demonstrated?

Formaldehyde by itself is not prescribed internally, but its ammonium compound—ammonio-formaldehyde or formin (also known under the name urotropin)—is prescribed very largely at present in cases of purulent cystitis, pyelitis, pyelo-nephritis, abscesses in the prostate, etc. The dose is 5 to 8 grn. in a glass of plain or carbonated water, three times a day. Its presence in the urine, it is said, can be demonstrated by the following test: A few drops of a saturated aqueous solution of bromine are added to the urine and an orange precipitate is formed. Formin is also said to possess excellent properties as a solvent of uric acid calculi.

G. M. M.—Will you kindly give me some points regarding the administration of Ethyl Bromide? Is a special mask necessary?

No special mask is necessary for using ethyl bromide, the kinds used in chloroform narcosis answering perfectly. It is considered important, however, that the mask used be applied *closely* over the mouth and nose. The contents of one tube are to be used at a time, and may be poured into the mask in one volume, or in two, as desired; or, the mask may be kept saturated while in situ by pouring the liquid upon it and covering with some impermeable fabric.

B. O.—In reference to the following prescription:

Auri et sodii chlor.....	gr. ij
Strychninæ sulf.....	gr. j
Acid arsenosi.....	gr. j
Ferri pyrophos.....	3i
Quininæ sulf.....	3i
Ext. Gentianæ, q.s.....	
Ft. pilulæ No. xxx.	

Would the first ingredient remain unchanged, or could one expect the physiological effect of the double salt if taken as part of this pill?

Gold and sodium chloride is a very delicate salt, and is best prescribed alone, if we desire to obtain its full physiological effect unimpaired. There can hardly be any doubt that in the above prescription it will be reduced to metallic state. Still many

physicians prescribe the gold and sodium chloride in combination with organic substances, especially in pill form.

J. P. L.—Please give the formula for Unna's Black Salve for lupus.

We are unaware of the existence of any "black" lupus salve. Our correspondent probably refers to Unna's Green Salve, the formula of which is:

Salicylic Acid.....	} of each, 15 grn.
Sol. Antimony Chlor. (Butter of Antimony)	
Ext. Cannabis Indica.....	} of each, 30 grn.
Creosote.....	
Wool-fat.....	4 dr.

Used in lupus, converting the nodules into dry clean scabs.

C. E. R. asks for the composition, appearance, and method of preparation of Howe's Acid Solution of Iron.

This solution, prepared from 2 parts of ferrous sulphate, 10 parts of distilled water, and 1 part of nitric acid, will vary in appearance according to the manner in which it is prepared. For instance, on mixing the water with the nitric acid and then adding the ferrous sulphate, a light-green solution is obtained which retains its color. On the other hand, if the ferrous sulphate is dissolved in the water first, and the acid then added, a yellowish-brown or dark-amber fluid results, the depth of color and its permanence depending on the strength of the acid used. From the description of the formula given in the American Dispensatory, we are inclined to believe that the latter named method of preparing the solution is intended. In our opinion the solution so made is likely to contain no iron nitrate, or at least but very little, as the evolution of nitric oxide fumes which is observed would indicate a partial oxidation of the ferrous sulphate to a ferric salt—probably an oxy-sulphate.

H. H. E.—In the *Echo Méd.* (Dec. 2, 1900) is an article on Apocodeine Hydrochlorate. Where can I obtain it, and what further information have you to offer?

The *Bulletin de l'Acad. de Med.* (Nov. 27, 1900) has an article by Tatsu-Babo, on "Immunization Against Tuberculosis." How can I obtain a full account of his experiments, methods of preparation, etc.? I desire to conduct some experiments along this line.

The drug referred to is described in Merck's Manual (ed. of 1899) substantially as follows: Apocodeine hydrochlorate is a yellowish-gray, very hygroscopic powder, soluble in water. It acts as an expectorant, sedative, and hypnotic, and is used chiefly in bronchitis and other bronchial affections. Its action is similar to that of codeine, but

weaker. It induces large secretion of saliva and accelerates peristalsis. The dose internally is from  $\frac{1}{2}$  to 1 grn., in pills. As an injection,  $\frac{1}{6}$  to  $\frac{1}{2}$  grn. is employed, in 2 per cent. aqueous solution.

No full account has appeared of the experiments made by Tatsu-Babo on immunization against tuberculosis, and we are therefore not acquainted with the details. We think, however, that a monograph on the subject will be published in the near future by the Paris Academy of Medicine.

R. C.—What is understood by Quevenne's Iron? Is it an organic or inorganic preparation?

Quevenne's iron is reduced iron, or Ferum reductum; that is, metallic iron in the form of very fine subdivision.

G. A. R.—We are very anxious to find a formula for the preparation of a solution of the suprarenal extract (for nasal operations) which will keep aseptic. Perusing the ARCHIVES, I failed to find such a formula. Information on this subject would be a boon to us. I would republish such a formula at once, for the benefit of the profession here. The solution, as I prepare it now, will not keep longer than twenty-four or thirty hours.

One of the following formulæ should answer your purpose:

1. Suprarenal Ext. (Dried) Merck. 10 grn.  
Camphor Water..... 1 oz.  
Sat. Solut. Boric Acid (Hot)... 1 oz.
2. Suprarenal Ext. (Dried) Merck. 15 grn.  
Boric Acid..... 4 grn.  
Cinnamon Water..... 1 dr.  
Camphor Water (Hot)..... 2 dr.  
Boiling Water..... to make  $\frac{1}{2}$  fl. oz.

Macerate for four hours and filter. This is useful in mild congestions; it reduces swellings and constricts small arterials, but it does not possess the full physiological activity of the drug.

3. Suprarenal Ext. (Dried) Merck. 20 grn.  
Carbolic Acid..... 2 grn.  
Cocaine Hydrochlorate..... 3 grn.  
Distilled Water..... 2 dr.

Macerate for ten minutes and filter. This solution is permanent and retains its activity for several months.

Other substances recommended as preservatives of suprarenal extract solutions are alcohol (in the proportion of 1 min. to 1 dr. of water), salicylic acid, etc. In this connection we might mention that the activity of the suprarenal extract is not injured by boiling, and a simple solution, made by boiling suprarenal extract and water for several hours, then filtering, and kept in a cool place, will keep undecomposed for a week or more. It is also important to note the fact, mentioned by several investigators, that a slight sediment or turbidity in the suprarenal solution does not impair its physiological activity. The most suitable formula for nasal operations should be formula No. 3.

J. H. R. writes: Please give me a good reliable up-to-date treatment for the Grip. We have quite a severe epidemic of it in our town and in the neighboring country, and a good treatment would be much appreciated. Can you refer me to recent literature on the subject?

The articles on the treatment of influenza published in the ARCHIVES for January, and in the present number, together with the numerous prescriptions we have printed in recent issues, cover the subject very thoroughly from all sides, paying attention to complications and sequelæ. The treatment may be relied upon as rational and based upon a very extensive experience.

G. A.—The causes and cure of baldness have been studied by Jackson, and basing himself on 300 cases in his private practice, which have been suffering with various degrees of alopecia he reaches the following conclusions:

"(1) Loss of hair is far more frequent among men than among women. (2) Neither the unmarried nor the married condition exerts any influence on the hair. (3) Intellectual occupations, especially when combined with worry and nervous strain, are predisposing if not exciting causes of baldness. (4) Sixty-six per cent. of the cases of loss of hair begin before the thirtieth year of age. If one passes that age without showing signs of loss of hair his chances for keeping his hair are much increased, as is represented by 36, 17, and 9 for the three following decades. (5) In women general thinning of the hair is the most common form, while the receding temple is uncommon. In men the whole top of the head is most often affected, and the receding temple is very common. (6) The great predisposing cause of loss of hair is heredity, 132 of the 300 cases showing a well marked family history. The influence of heredity is shown in sex, most of the women who lose their hair showing a well-marked history on the maternal side; the men showing it on the paternal side. Next to heredity all disorders of the general nutrition of the body are predisposing causes. The greatest exciting cause of loss of hair is dandruff, a term used to include seborrhea sicca, pityriasis, seborrheal eczema or dermatitis—72 $\frac{2}{3}$  per cent. The evil influence of dandruff is greatest in those of a bad family history of loss of hair. As to treatment, the best drugs are sulphur, resorcin, and the mercurials, in the order in which they are named. The only stimulant to the hair worth mentioning is massage, and this should not be employed until the dandruff is checked."



## Correspondence

### MERCK'S ARCHIVES:

In the last July number of the ARCHIVES there was an article stating that Dr. Joboulay, of Lyons, France, had treated cancer by daily hypodermics of quinine bichloride. You also mentioned several other cases, all of which were much benefited; but you failed to state whether or not there had been any actual cures of cancer. I have been encouraged, by your article, to try this treatment recently, and, hoping that the details will be of interest, I will cite the case. I was called, on November 24th, to see a lady who had had a carcinoma removed from her right breast, by the knife, a year ago last August. There seemed to have been a thorough operation; the entire right breast, and glands in right axilla, were removed. Last April there was a recurrence in the scar. When I was called to see her there was an immense crater-form opening at site of right breast, surrounded by cancerous tissue; a smaller opening in right axilla; the left breast filled with cancerous masses, and a cancerous node on right scapula. Her color had the peculiar cancerous look. No appetite; extreme pain; no sleep without large doses of morphine. Commenced the injections of quinine bichloride on December 9th, and have given them once a day since. I can state that she is now doing without morphine, except on rare occasions; that her appetite is returning, and her face and eyes look much better. She is much encouraged. I don't look for a cure in this case, nor think it possible, but in view of the improvement up to present would like to inquire if you know if any cures have been effected by this means. I forgot to state that the patient is also, by my directions, taking methylene blue (medicinal) daily, internally. I think the cancer nodes are commencing to look differently, and there seems to be some change in the entire cancerous area. I understand fully the gloomy prognosis of these cases, and do not allow myself to expect too much in this case. If you can give me any further hints as to treatment, or prognosis, they will be most gratefully received. The ARCHIVES is a most valuable journal, and is highly appreciated.

JOHN J. TRIBLE, M.D.,  
Waverly, Ill.

### MERCK'S ARCHIVES:

A man, thirty-eight years old, machinist, called to consult me, on July 15, 1900. He had been treated by others for pretty near eight months, with no relief. The complaint was a cough, with quite abundant purulent discharge; no appetite, very emaciated, abundant sweats at night, fever in the afternoon, and very weak, with a pain on light pressure on the left kidney. He is a teetotaler, but attributes his trouble to excesses in venery.

I prescribed thiocol, 5 grn.; Wheeler's elixir, 1 tablespoonful, repeated together every four hours, from morning to bedtime. On the 25th he was better in every way; increased thiocol, 8 grn., in the same amount of the elixir, every four hours. Aug. 5—Appetite very good, no more sweats at night, pain in the kidney yet, expectoration less. Increased thiocol to 12 grn., taken as before. Aug. 15—Pain in the kidney gone, good appetite, no more sweats, no afternoon fever, cough a good deal less, has gained 5 lbs. in weight. Increased thiocol to 16 grn., taken now only two hours after meals for three weeks. Sept 7—

Coughs only two or three times a day, no more purulent expectoration, very good appetite, good digestion, gaining in weight, gone back to work. I advised him to continue treatment in last-named dosages till the end of October, and then to reduce the doses gradually as I had increased them. All the bottles had been numbered, so he could not make mistakes. I saw him Dec. 2. He said he felt as good as ever, with the exception of a very light cough on getting out of bed in the morning. He is to resume the treatment again after the holidays.

I used orexine tannate in the form of orexoids in a case of neurasthenia from overworked brain. This patient was so low when he called, that I thought his case hopeless. I sent him, accompanied by a bright fellow, to Montreal for one month, with a supply of orexoids, asking the companion to observe him, and to make reports on the state of the sick man once a week. After the second week, and before I expected it, I received the gratifying news that my patient was doing very well, eating a pretty square meal for his dinner. After the third week, he was short of orexoids, because he could not find them in Montreal; seeing this, he came back to Woonsocket, bought another bottle of orexoids, and persisted in taking one or two tablets per day. He began treatment on July 23, and to-day he is as well as at any period of his life.

CHAS. DANSEAU, M.D.,  
133 Olo street, Woonsocket, R. I.

### MERCK'S ARCHIVES:

A very interesting case regarding wood alcohol and its effect came to my observation the other day. A certain brewer here in town engaged two painters to shellac the inside of some newly built large barrels; he was to provide the material. The brewer bought shellac, and dissolved it in Wood Alcohol. The painters were put to work, and after painting for two days both men became stone blind. This occurred over a year ago. One of the men lost the sight of one eye completely and with the other eye he can just tell the difference between day and night; the other man, the one I saw (a former customer of mine), can just see enough to discern the outlines of different objects; he would not know a person standing right in front of him. The physician whom he consulted told him that inhaling the fumes of the wood alcohol caused atrophy of the eye muscles [nerves?]

FRED. HAEGER,  
448 North Clark street, Columbus, O.

CHLORAL IN ECLAMPSIA.—Dr. E. Blanc considers the chloral treatment of eclampsia the most reliable. The only safe method of use is by the stomach or rectum. If the woman is in a comatose condition it is, of course, impossible for her to swallow, and accordingly the rectal method is generally preferred, the chloral being emulsified by means of milk and the yolk of eggs. Inasmuch as the enemata are usually expelled, Dr. Blanc prefers the method of Prof. Fochier, whereby an esophageal tube is introduced into the stomach and the chloral injected. If it is impossible to open the mouth, the tube may be passed through the nasal fossae. The dose should not exceed 45 to 60 grn. In this manner 2 to 4 drams of chloral may be administered in twenty-four hours. As the remedy appears to have prophylactic action, it is well to give 45 to 60 grn. a day in severe albuminuria of pregnancy.—*Jour. de Méd. de Paris.*



## Book Reviews

Nobody will deny that the questions in obstetric diagnosis are sometimes among the most difficult ones that we have to deal with. The diagnosis of pregnancy alone has sometimes puzzled the ablest physicians and obstetricians. Anything likely to throw some light on this difficult subject is, therefore, welcome, and we greet heartily the work **PHYSICAL DIAGNOSIS IN OBSTETRICS**, by Prof. Edward A. Agers. As seen, from the title, the book deals exclusively with the subject of diagnosis, and is intended to be a guide in antepartum, partum and post-partum examinations. The work is remarkably complete—in fact, if any criticism were to be made, it would be that the author goes a little too deeply into details. The illustrations are excellent. (New York: E. B. Treat & Co. Price, \$2.)

**A TEXT-BOOK ON PRACTICAL OBSTETRICS**, by Egbert H. Grandin, M.D., and Geo. W. Jarman, M.D., differs considerably from the routine books on this subject. While it presents a thorough review of the subject, it is markedly free from those dry non-essentials which, in most cases, only serve to confuse the student. Statistical tables are conspicuous by their absence. Disputed points are not discussed, but that side is given which appeals to the judgment of the authors. There are a number of very excellent original plates, most of them from actual photographs, illustrating the steps of labor, abdominal examination, the methods of performing artificial respiration, etc.

The language throughout is clear and forceful, and the typography and general get-up excellent. (Philadelphia: F. A. Davis Co. Third edition, revised and enlarged. Price, extra cloth, \$4; sheep, \$4.75.)

**URINARY DIAGNOSIS AND TREATMENT**, by J. W. Wainwright—a collection of some data on urinalysis and a short, rather unsatisfactory, chapter on nephritis, diabetes, etc. There is nothing new, either in the information contained or in the method of treatment, and we fail to see any *raison d'être* for the appearance of this booklet of 100 odd pages. (Chicago: G. P. Engelhard & Co. Price, \$1.)

**IN DISEASES OF THE HEART: THEIR DIAGNOSIS AND TREATMENT**, by Albert Abrams, we have a valuable addition to the literature on this important subject. The author's researches in diagnosis of the affections of the heart have here for the first time been presented in collected and systematic form, and the language is in his direct and forceful style. The treatment will appeal strongly, we feel sure, to the judgment of the common-sense physician, and is thoroughly up-to-date.

The volume is divided into eight chapters: Introduction to diseases of the heart; the diagnosis of diseases of the heart; general treatment of diseases of the heart; affections of the pericardium; endocarditis and chronic valvular disease; neuroses of the heart; affections of the arteries, and an addendum, in which the subject of the heart reflex is considered. The printing and binding are of the best. (Chicago: G. P. Engelhard & Co. Cloth. Price, \$1.)

A radical innovation has been made in Shoemaker's **TREATISE ON MATERIA MEDICA AND THERAPEUTICS**. Recognizing the fact that there is an essential difference between the needs of students and practicing physicians—that what is important to the latter may be superfluous to the former—the author, Prof. John V. Shoemaker, decided to issue two independent editions: one for the use of students, the other for physicians. It is the students' edition that is now before us. In this work the newer remedies have been omitted; only those drugs are treated of which are official in the pharmacopœias of the United States and Great Britain, "together with some of their chemical modifications." Right here we must say that we see no justification, whatsoever, for including the drugs and preparations official in the British Pharmacopœia. A text-book of materia medica is not a work for reference; it is a book to study, and practically to commit to memory. No American student is required or expected to know the British drugs and preparations—he does well if he has a fair knowledge of the U. S. P. preparations—so, why devote a large portion of the text to superfluous matter? Why, for instance, devote more than a page to "cusparia cortex" and to the distinguishing marks between true and false angostura bark? What has a medical student to do with identification of drugs, anyway? We also deem it superfluous to give the *chemistry*, dates of discovery, etc., of the elements—potassium, sodium, silicon, etc.; that belongs to a text-book on chemistry. The book abounds in numerous prescriptions. This is a good feature, which will be welcomed by student and physician alike; but here, too, we must say that the author has not used very fine judgment in his selections. He says in the preface that it is incumbent upon the student to become acquainted with the *official* remedies and preparations; nevertheless, the prescriptions teem with non-official substances, many of which have never obtained even a temporary foothold in therapeutics. The following prescription will serve as an example: Retinol, 70 Gm.; Ceri sterilizat. (whatever that may mean), 23-4 Gm.; Cinnamol, 1 Gm.; Beta-naphtol, 1 Gm. Are such prescriptions calculated to teach the student how to prescribe intelligently? And not only in the prescriptions, but throughout the text a number of non-official chemicals and drugs are considered which are of little or no value to the student or the physician. We believe that the book would be greatly improved (and would become much more acceptable to the student) by the cutting out of about 200 pages from the text. We hope that the physicians' edition will be free from some, at least, of these defects. (Philadelphia: F. A. Davis Co. Fifth edition, thoroughly revised.)

The second volume of the **MANUAL OF MEDICINE**, edited by W. U. Allchin, has just been issued. This volume is a direct continuation of the first volume (which was reviewed in the ARCHIVES for July) and treats of diseases caused by parasites, diseases caused by poisons introduced into the body, primary perversions of general nutrition, and diseases of the blood. While not as exhaustive and encyclopedic in character as "Albutt's System of Medicine" (The Macmillan Co.), every disease, even the most obscure, is taken up and discussed satisfactorily. The illustrations are remarkably clear, and the colored plates illustrating the blood-corpuscles in health and disease, are excellent. (New York: The Macmillan Co., 66 Fifth avenue. Price, \$2.)

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### The Various "Schools" of Medicine

THE onslaughts on rational and scientific medicine are proceeding from many sides. Ignorance on the part of the public in regard to medical matters makes it an easy matter for quackery to carry off victories and to obtain adherents. Carlyle said: "There are forty million Englishmen in the United Kingdom, and most of them fools." While it would not be fair to say that most of the eighty million inhabitants of the United States are fools, it is certain that quite a goodly number belong to that category. How otherwise account for the large number of fads and follies, that mushroom-like spring up in various corners of our vast country, each one of them boasting of a large number of followers and dupes? That the sophistries propagated by the false leaders will not bear rational criticism goes without saying; but by the public they are accepted as gospel truths. One of the favorite arguments—an argument which appears to possess much weight with the uninformed and unsophisticated—is the contention that medicine is no science at all; that it is nothing more than a jumbled collection of a few empirical facts and observations; that it consists of several "schools," each diametrically opposed to all the rest; that a practitioner of one school treats his patients on lines entirely different from those accepted by the practitioners of the other schools. This being

a fact, say these false leaders, there is only one conclusion to be reached: Either all schools of medicine are wrong; or, at least, only *one* is right and all the rest are wrong. As each school believes that it is the only right one and that the others are in ignorance and error, there is no possible means for the layman to determine which is really the right one. The only just way out of the dilemma, therefore, is to abolish the control of the practice of medicine altogether and permit everybody to practice who wishes to do so, leaving it entirely to the people to choose their medical advisers.

With a show of plausibility, these sophists say: "Why are there no different schools of physics, schools of chemistry, schools of botany? Because these are *sciences*. Medicine, on the other hand, is no science at all, but a conglomeration of mistakes and superstitions." Says one of the periodicals devoted to quackery of the worst form: "... They are the advocates of the various schools of medicine. They do not agree among themselves on a single question of importance to the patient. They exhaust the vocabulary of vituperative words in describing each other's practice. The homeopath calls the allopath a murderer, while the allopath calls the homeopath a flim-flammer. The eclectic is as sure that the allopath is wrong, as he is sure that he himself is

right. . . The dear people are warned by the allopath against the homeopath. The unsuspecting public is warned by the homeopath against the allopath. The unsophisticated masses are warned by the eclectics against all other schools of medicine," etc., etc., *ad nauseam*.

But let us look a little more closely into the matter. Are there really such wide and fundamental differences among the schools? Let us take, for example, a case of placenta previa or one of transverse presentation. Is such a case treated differently by the allopath, the homeopath, and the eclectic? Not at all. All competent practitioners of either of these schools will treat it exactly alike. Take a case of Potts' or Colles' fracture, or one of dislocation of the shoulder. Will it be treated differently by followers of the different schools? No, but exactly alike. Will a stone in the bladder, an intussusception of the bowels, an incarcerated hernia, an acute or chronic otitis media, a severe nasal hemorrhage, a foreign body in the larynx, a trachoma, an iritis, a glaucoma, a severe shock, a case of poisoning, etc., etc., be treated differently by the representatives of the various schools? Most emphatically, No! All such cases are treated practically alike by the educated and competent physicians of all schools. If there are any differences, they are not more divergent in character than the variations in treatment practiced by the followers of one and the same school. The real difference among the schools becomes only manifest in the internal treatment of *some* internal diseases. But even here there is a universal agreement as to the general management of the case, as to hygiene, nursing, diet, etc. The difference is only in the drugs used and in the doses, and even in this respect the barriers are beginning to be thrown down, and what at one time seemed to be an impassable gulf is beginning to be bridged over. The homeopaths now largely recognize that the reaction against excessive and careless dosage during the last quarter of the eighteenth and the first quarter of the nineteenth century, has swung to

the other extreme, and the majority of them have at present no scruples in using drugs in the same doses as they are used by the regular physicians. The eclectics, to whom at one time mercury was the incarnation of everything wicked and diabolic, are now using the salts of that metal without any compunction. They have perceived that it was the careless and excessive administration of that drug that occasionally worked havoc with the patient's constitution, and that if administered with proper precautions—a thing necessary in the administration of any drug—it is one of our most powerful therapeutic weapons. Even the newest remedies, the latest products of the synthetic laboratory, are used with almost equal frequency by the followers of all the three schools. Drug-gists with a large prescription trade, who are patronized by regular physicians, homeopaths, and eclectics, testify to the fact that while in minor ailments and in mild diseases the treatment by physicians of adverse schools may vary widely, yet in severe diseases and in emergency cases the prescriptions are practically the same—the drugs and the dosage—no matter from what school they emanate.

Again, graduates of the homeopathic and eclectic schools attend the regular post-graduate schools and the foreign universities side by side with the regular physicians, and we speak from positive knowledge when we say that there are few among the best educated homeopathic and eclectic physicians who do not subscribe for one or more regular medical journals. The regular profession, on the other hand, fully and cheerfully recognizes that both the homeopaths and eclectics have done their share in behalf of medical science, and have contributed towards greater care and exactness in drug therapy. In the medical press—and of late more and more often—voices are heard against sectarianism, and the sentiment is slowly but surely crystallizing that there is but one science and art of medicine, and that minor differences in the treatment do not offer sufficient justification for the existence of separate schools.

[Written for MERRICK'S ARCHIVES]

## THE TREATMENT OF HEADACHE

By L. Harrison Mettler, A.M., M.D.

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ANY scientific discussion of headache will arouse small interest if it is not permeated through and through with the purpose of discovering a cure. It is, in a large proportion of cases, a mere accompaniment or symptom of some other trouble, so that in itself it affords but little to speak of, all thought being given to the nature of this other trouble and of its prompt removal. In headache more than in any other form of distress, the diagnosis is made for and with the sole object of determining, if possible, a correct and effective therapeutics. To name the patient's trouble cephalalgia and then order one of the synthetic analgesics will not do. The adoption of such a method is unhappily too often the cause of the gross mistakes and failures with which the treatment of headache has been replete. Not a few practitioners regard it, like hysteria, as the *bête-noire* almost of medicine. Admitting that, as in all forms of disease, there are a few hopelessly chronic and incurable cases of headache, I think it may safely be affirmed that the vast majority of cases are amenable to cure, and that in those cases where we fail to obtain a cure, or at least relief, we have gone astray in our etiologic diagnosis.

Common as it is, no trouble demands so intelligent and painstaking a search for its causation. If the best result is desired, the attendant must not deem anything about the life history of his patient—his habits, his mode of living, his mental as well as his physical general makeup—too insignificant for investigation. Unless some other symptom, associated with the headache, should indicate at a glance the probable cause of the latter, I find it judicious in trying to arrive at a proper diagnosis and line of treatment, to follow systematically with every case that presents itself, a concise and easily-remembered classification of headaches based upon their various causes. In this way nothing is omitted that might shed a ray of light upon an obscure case, and oftentimes most valuable hints are thrown out indicative of an effective therapeutics. In this paper, it is my endeavor to suggest such classification as has proved helpful to me and to indicate, largely from personal experience and observation, the appropriate remedial measures. Of course, idiosyncrasies must be given their full weight, and therefore I have mentioned a larger number of remedies than will be

likely to be employed in routine work. A good mechanic has always ready at hand a large and varied assortment of tools to meet every sort of exigency, though ordinarily he may work day in and day out with a few of them. I am not in sympathy with that sort of carping criticism that ridicules therapeutic measures on the mere ground of their multiplicity. Multiplicity means increase of latent potentiality; active potentiality and ultimate success depend upon intelligent selection and application.

For convenience, headaches may be divided, according to their etiology, into the following five classes:

1. Those due to vasomotor disturbances, as hyperemia, anemia, and arterial changes (arteriosclerosis).

2. Due to blood states (toxemia); as in uremia, acetoneuria, and the gouty and rheumatic diathesis; in drug poisoning by opium, alcohol, quinine, and chloroform; in saturation with lead, tobacco, tea, and coffee; in pyrexia and infectious diseases, as pneumonia, typhoid fever, influenza, and malaria.

3. Due to reflex irritation, including eye-strain, and all kinds of irritations in connection with the mucous cavities, stomach (dyspepsia) and reproductive organs (dysmenorrhea, masturbation, etc.).

4. Those of neurotic origin, such as the headaches of epilepsy, hysteria, neurasthenia, neuralgia, mental strain, and hemi-crania.

5. Due to organic diseases, like tumor, hydatids, ossific formations, syphilis, tuberculosis, softening, meningeal inflammation, thickening, and insolation.

When summoned to a case of severe cephalalgia, the physician finds himself at first in somewhat of an anomalous position. The patient demands immediate relief, but this usually is afforded at the sacrifice of thoroughness in the search for and eradication of the primary cause. A splitting headache is not conducive to a high degree of rationality; hence it is often obligatory to administer an analgesic and trust to some more favorable opportunity to start an exhaustive examination. Unfortunately that opportunity does not often come, because as soon as he is *relieved* of pain the average patient puts off the examination until the return again of the splitting headache and the demand for immediate relief. It is in this way that the modern synthetic analgesics have developed their great popularity while the real cure of headache is still so much a matter of uncertainty and disappointment. I make it a point, in every instance, to impress upon the patient the fact

that *relief from pain is not a cure*, and that I can only hold out to him the hope of a possible cure if he will continue to let me study his case. If he refuses, I impress strongly upon him that his headache will return and in all probability will grow worse with each repetition.

In the attempt to afford immediate relief, science usually yields to art. The remedies recommended for this purpose are legion, but those that are actually available are far from being numerous. Moreover, in reaching for a means of immediate relief, the above classification possesses but a limited value as a guide. The pain is in the sensory apparatus, whatever may have been the cause and location of its origin, and to afford the patient prompt relief some remedy or measure must be employed that deadens the sensitiveness of the sensory apparatus. Narcotics, hypnotics, and analgesics will do this with varying success. Decubitus, counter-irritation, heat, and cold will likewise in some measure prove efficient. Headaches due to circulatory disturbances are usually modified by the position of the patient's head as well as by the direct application of heat or cold; those due to arteriosclerosis would of course be little affected by any such measures as these. Some headaches accompanying the neuroses are promptly influenced by suggestion, complete change of environment, and reflex stimulation (electricity, massage, etc.). With the few exceptions of this sort, however, the same remedies will apply more or less alike to all forms of head-pain when used for their immediate effect. Of this class of remedies, morphine still stands at the head of the list. It should be used, however, only as a last resort. I have seen irreparable damage done by the free use of morphine under such circumstances, as the patient subsequently formed the drug habit. If it has to be resorted to, the smallest dosage possible should be employed. Patients always associate the hypodermic syringe with the use of morphine, hence it is not a bad idea at times to try suggestion or psychotherapeutics with the subcutaneous injection of warm water or some other drug than morphine. I frequently administer for the first few doses any of the other analgesics, because I am enabled thereby to satisfy the patient more quickly and at the same time avoid the use of an opiate. The hypodermatic method has preeminently its advantages in the treatment of headache, and I would urge its being employed more than it is. Antipyrine, caffeine, atropine, codeine, monobromated camphor, chloral hydrate, hyoscyamine, veratrine, digitalin,

and in fact nearly all of the remedies usually given by the mouth, are available hypodermatically.

Next to morphine, the modern synthetic coal-tar preparations give the quickest relief. Phenacetin, antipyrine, and acetanilid is the order in which I give them the preference, not because of their analgesic properties alone, but because of these in conjunction with their action upon the heart and hemoglobin of the blood. Acetanilid seems to be more positively and quickly analgesic, but I fear its action upon the circulatory apparatus more than I do that of the others. I have frequently found antipyrine with camphor to give prompt ease. Large doses of the bromides, especially the bromides of sodium and lithium, have been strongly indorsed, but have not proved very effective in my hands. When caffeine is added to the bromides my results have been more satisfactory, especially in the neurasthenic cases. Butyl-chloral hydrate, paraldehyde, chloralamide, ethylene bromide, thermopin, and triphenin should all be borne in mind as available analgesics in some cases. I prefer to use, however, hyoscyamus, with the bromides, and guarana. Chloroform inhalations are so well known that unfortunately the laity too often resort to them without advice. Accidents have not unfrequently happened when so used. A good plan sometimes, especially in the asthenic cases, is to administer a full hypodermatic dose of strychnine and have the patient sip at the same time a strong infusion of tea. The soothing effect of a prolonged hot bath, or even hot pediluvia, must not be overlooked. A bath of thirty or forty-five minutes' duration in water as warm as can be comfortably borne will sometimes afford most striking relief. A cordial taken at the same time proves advantageous. In a case of severe diabetic headache, I found that local applications of extreme cold, in the form of ice-bags, were more grateful than heat. Rarely will it be necessary to think of leeching, though cupping, pressure upon the carotid arteries, and the ether spray, may all be tried and no harm done. Of all the non-medicinal measures, I have a strong preference for the use of electricity. Direct galvanization of the head with general faradization has rarely failed in my hands to afford some relief. The static current has caused too much irritation to be uniformly commendable, though the static breeze with the brush is worthy of a trial. Counter-irritation through the nerves of special sense has curiously relieved the pain in a few instances and sent the patient into a slumber.

The hum of a distant factory, the sound of dripping water, or a soft music-box, with the environment of a partially darkened room, are not bad adjuvants at times. The very length of this list of remedial agents and the variability of the results obtained indicate only too clearly the protean character of this oft-intractable malady. Patience, perseverance, and abundance of ready resources are absolutely necessary to obtain anything like a uniform success in the relief of headache.

Remembering that the vast majority of headaches are but symptoms of some other trouble, the therapeutics of the former resolves itself into the treatment of the latter. Febrile and syphilitic headaches, and those due to eye-strain do not demand the expenditure of much thought in regard to their treatment after their etiologic diagnosis has once been clearly determined. As everybody knows, the rheumatic headaches call for the salicylates, the gouty for colchicum and regulation of diet, and those due to tumor for an experimental trial of the iodides.

Of the five classes of headaches mentioned in this paper, those due to the neuroses are the most refractory and demand the highest degree of skill for their successful treatment. There is such a thing as a habit of headache, and in these headaches of the neuroses, many of which are chronic and deep-seated, the habit will continue in spite of one's best endeavors to regulate the patient's mode of living, to tone up the general constitution, and to awaken the normal activity of the bodily functions. The headaches of hysteria and of epilepsy can only be relieved in so far as we are able to influence the conditions causing them. The bromides are the most effective in the epileptic headaches, just as the valerianates, with other antispasmodics and with psycho-therapeutics, are in those of hysteria.

I have come to the conclusion that typical hemicrania (migraine) is an epileptoid sort of a trouble, occurring on the sensory side of the nervous apparatus. Just as epilepsy is an explosion, as it were, of nerve force among the cortical motor elements, hemicrania is an analogous phenomenon occurring among the sensory elements. As one does not cure epilepsy save by warding off fits and thus lengthening the intervals between them, so the best we can hope for in the treatment of migraine is to ameliorate the severity of the attacks and increase the intervals between them. No routine treatment, therefore, can be justly recommended for the relief of migraine.

For the attacks themselves, I find often that nothing but morphine will suffice, but if this remedy is specially contra-indicated, I immediately resort to direct galvanization of the head and general faradization of the body after a prolonged full hot bath. Not many cases resist this. The hypodermatic use of aconitine, of antipyrine, and of cocaine has been of service. Large doses of sodium salicylate (30 to 40 grains) in a cup of strong coffee will occasionally still the pain. Phenacetin, antifebrin, exalgine, methylene blue (medicinal), guarana, cytisine, and migranin are all at one's disposal. To this list may be added agathin, bromamide, euphorin, phenocoll hydrochlorate, pyrocin, salicylamide, salipyrin, and thymacetin, all of which, however, are feeble and variable analgesics and are in no way more to be commended than antipyrine, phenacetin, or acetanilid. In the intervals between the attacks of migraine I stimulate the action of the kidneys with theobromine and sodium salicylate and the bowels with some saline cathartic, and administer sodium salicylate in moderate doses. This line of treatment has at least the advantage of overcoming autointoxication, by which I believe a goodly number of cases of migraine are more or less instigated. A great number of common headaches which we meet with nowadays are due to neurasthenia. For these cases I find arsenic is the remedy par excellence, the head-pains being kept under control by the simultaneous administration of cannabis indica. Of course, it goes without saying that all the usual measures employed for the relief of the neurasthenic condition must be adopted here, such as relief from work and worry, change of environment, forced feeding, free bathing, tonics, electricity, etc. While the most common, the headaches of neurasthenia are perhaps the most amenable to treatment. This is fortunate for the credit of medicine, and indicates that the occasional pessimistic views in regard to the cure of headache are not altogether warranted.

The treatment of headache is a larger theme than can be exhaustively considered in a single paper, but perhaps the treatment outlined above will assist in thwarting the discouraging view that headache after all cannot be cured, as drugs in time all lose their power over it.

4544 Lake Avenue.

FOR HEADACHE.—Phenacetin, 5 grn.; caffeine, 1 grn.; extract of ergot (Bonjean), 1 to 3 grn.; extract of belladonna,  $\frac{1}{8}$  grn. For 1 capsule. One every two to six hours.

[Written for MERCK'S ARCHIVES]

## THE USE OF ICE PER RECTUM IN NARCOTIC POISONING

By WILLIS Cummings, M.D., Brooklyn, N. Y.

TWENTY years ago, while a student, I saw in a medical journal an item calling attention to the fact that ice introduced into the rectum would produce very promptly a temporary return to consciousness in cases of poisoning by opium. While the method may be in general use, I have never seen a reference to it since, so that it has occurred to me that my experience in this matter may be of interest to others.

The clinical cases here described are collated from notes extending over the past eighteen years, and are notable for the large quantities of drugs taken as well as the prompt results obtained by ice, and in some cases inversion of the body.

A. R., a merchant thirty years old, swallowed 2 ounces of laudanum carried by him in his general merchandise stock. When I was called about three hours afterward he was, of course, unconscious, his respirations were five or six to the minute, face livid, pulse slow, and pupils firmly contracted. I stripped him and had an assistant reverse him by standing on the bed and holding him up by the legs. This caused him to make an inarticulate sound, but upon the introduction of a piece of ice in the rectum there was an explosively uttered profane word, and upon immediately shouting into his ear a question, he said "laudanum." Atropine was given by hypodermic injection; the usual beating with wet towels, constant movement by rolling on the bed, moving of arms and legs, and inversion were also made use of. An enthusiastic medical assistant wished to give an emetic and mixed a *tablespoonful* of sulphate of zinc which was at hand, in a half glass of water, and after some difficulty it was poured into the stomach. When told of the amount I immediately gave him some tepid mustard water and sent it in after the other emetic. This was retained along with some black coffee and nothing ever came back. Coma was persistent, but ice and inversion would bring temporary relief; after two hours or more, by the aid of assistants, I got him to walking, and after eight hours of constant attention he was out of danger. No after-effects were seen as a result of the zinc emetic. In a week patient was discharged.

Mrs. A. H., a subject of cancer, had continuous pain for several weeks, which prevented sleep, notwithstanding the use of full doses of morphine. She asked for

chloral, of which she understood the use, having been a nurse in London hospitals for several years. I acted on her suggestion to give 15 grains to the teaspoonful of water, and prescribed a 4-ounce mixture, ordering a teaspoonful at 4 P.M. and one at 8 P.M., to be repeated in six hours if necessary. While at dinner three miles from patient's home, I was hastily summoned again. I found she had taken a teaspoonful at 4 o'clock, another at 6, and what remained of the 4-ounce mixture at 7. It was 8:15 when I arrived. I think patient had taken at least 420 grains of chloral. Flagellation, apomorphine (which did not produce vomiting), inversion, and icicles in the rectum enabled me to leave toward morning, with my patient conscious and sleepy but out of danger. While eating breakfast I was again summoned to the house, and found she had taken the contents of a bottle which I had prescribed several days before, and which had been used but once for painting an enlarged gland. The mixture was composed of Tr. Iodine, 3vii; Glycerin, 3i. She was in pain, and as she would not open her mouth and neither her husband nor myself were certain she had taken the dose, though the bottle was empty, I gave her a generous hypodermic of apomorphine, receiving the vomited matter in a solution of starch, from which we got the customary color reaction. Finding a revolver under her pillow, I concluded she was a good case for the hospital, to which she was sent and from which she was discharged after several weeks' suffering from gastritis. I lost track of the case and so cannot report final results.

R. W., an accountant in the Isthmus of Panama, was found in a comatose condition in his room. His attendant failing to arouse him, I was sent for, reaching him at 1 P.M. Respiration was barely perceptible. I stripped him and had two serving boys use the towels and invert him. An injection of apomorphine was given with no immediate result; he later vomited and defecated in the bed. I called for ice. Its insertion in the rectum brought about the usual result, and whenever he lapsed into immovable unconsciousness it would arouse him to the swearing point. During the five hours I worked over him he took  $\frac{3}{10}$  grain of apomorphine and 1 pearl of amyl nitrite. When rational he showed me a bottle of 8-ounce capacity which was something less than half full. He said it contained 120 grains of chloral hydrate to the ounce. He had commenced taking from the bottle at 7 A.M., but having used it

frequently before for insomnia and not getting immediate effect, he had inhaled some chloroform, from a 1-ounce bottle which I saw was a little over half full. This produced sleep, but waking up in a dazed state later and hoping to retain a good sleep he took "a long drink" with almost fatal results. He died about forty-eight hours later, having all the symptoms of yellow fever. I was able to demonstrate at the hospital where he was taken over 60 per cent. of albumin in the urine.

S. K., his wife, three sons, and one daughter retired about 10 P.M., leaving as they supposed a self-feeding parlor heater in its regular condition for the night. About 1 o'clock the father awoke, dimly conscious of something wrong, and finding himself very drowsy made an effort to get up. Failing to do so he attempted to arouse his wife without success. This alarmed him sufficiently to stir him to greater effort, and falling out of bed he managed to get to a window and by great exertion to raise it and call to the next house for help. The neighbor immediately ran for medical help, and meeting me returning from a call we hastened back, breaking a lower window to get in. The rooms were filled with coal gas. We immediately opened the chimney draft of the stove and raised the windows. The father was on the floor in a collapse; mother and children could not be aroused to full consciousness. Icicles were used on all, it being a cold night after a January thaw. This was apparently sufficient to revive all but the mother, to whom a hypodermic of strychnine was given, along with friction and hot applications. All made a good recovery.

The next case is one where ice was not indicated or used, but the amount of poison taken was large and recovery so rapid I include it as interesting at least.

J. H., fifty-three years of age, took, with suicidal intent, 2 grains of strychnine sulphate at 11 A.M. I saw him at 2.30 P.M. in complete opisthotonos, stertorous respiration, heart sounds shortened and "clicky," pulse feeling like a fine wire under the finger. He was unconscious, except to peripheral stimulation by cold, draughts of air or personal contact, when the tetanic state would recur. Had vomited blood shortly before I came. Gave a hypodermic of morphine,  $\frac{1}{2}$  grain, followed in fifteen minutes by 30 grains of chloral by enema, which was retained. In fifteen minutes  $\frac{1}{4}$  grain of morphine was given; in twenty-five minutes,  $\frac{1}{4}$  grain more, and  $\frac{1}{8}$  grain a half hour later. Hot-water bags were placed around him, and between spasms his limbs

were smartly rubbed under blankets. Relaxations of longer duration were finally brought about, when he complained of anginal pain running to left forearm, and soreness in pectoral muscles. He said every time the heart pulsed he had a pain, and he could not take a long breath without crying out. After six hours he was resting quietly, unless disturbed by currents of air, sudden noise or by being touched, these manifestations lasting until the next day. Hourly doses of 5 grains of sodium bromide were given for two days, excepting when sleeping quietly. Hot milk and beef extract were given as nourishment. There was some incontinence of urine at 6 P.M. on day of poisoning, and a free evacuation of bowels at 11 P.M. same date. The patient was a hard and lifelong drinker. He had taken six good-sized drinks of whiskey between 7 and 11 A. M. in order to brace up for the deed, and I afterward found that a druggist friend had given him at least 2 grains of strychnine "to kill a large dog which had become a nuisance." He is still drinking and shows no ill-effects from the strychnine six months after its ingestion.

I have used ice with immediate results in alcoholic coma a number of times; once in a "supposed diabetic coma," once in coma from ascites with cardiac inefficiency. Some minor experiences in large though not lethal doses of morphine have been satisfactory, and from these I deduct that where instant stimulation of the vasomotor or sympathetic centers is needed, ice per rectum will be found an efficient aid.

48 Cambridge Place.

[In connection with the case of strychnine poisoning cited, it is well to note that alcohol is considered by some authorities a direct antagonist of strychnine, and it is not at all improbable that the six good-sized drinks of whiskey which the patient had taken just prior to swallowing the strychnine had a good deal to do with the favorable issue of the case.—Ed.]

[Written for MARCH'S ARCHIVES]

## SULPHUR AND ITS DERIVATIVES

By J. H. JACKSON, A.M., M.D.,

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SULPHUR has been from time immemorial used as a laxative and to drive the humors from the blood—as a proof, witness the numerous doses of sulphur and molasses we took when children. Part of this may have been mere following the fashion, the gregarious habit of following the



leader. The use of catnip, the mints, and other such medicines is proof of this tendency. They are carminative, stimulant, and rather agreeable, but, upon the whole, might be left out of medicine without great loss.

Yet it is not often that a medicine has a popular reputation unless there is good reason for it. Sulphur has claims to a higher plane of efficiency than the public at large has given it, since its possible uses are many more than the laity even dreamed of. The object of this paper will not be to treat exhaustively of the remedy, but to give some of its commoner applications and add a little to the knowledge of its more uncommon uses. I will not write of the limitations of sulphur, since I do not know them, and to adopt a theory and say that there is nothing of possible value beyond its limits might aid in preventing research. Only a few years ago coca was regarded as only a dangerous narcotic stimulant, and had investigation ceased then, we should not now have knowledge of the value of cocaine. But sulphur is not in the doubtful list in many ways, and in treating of it I shall not go far beyond recognized and well-known limits.

We will first consider its external uses. There are very few simple skin diseases in the treatment of which it can not be utilized, either alone or in combination. In scabies it is a specific, when applied locally in the form of an ointment, 1 or 2 drams of sulphur in an ounce of lard, petrolatum, or other vehicle. This should be applied three or four times daily, and carefully removed by washing before reapplication. Sulphur and cream of tartar are used at the same time internally, the bowels to be kept moderately loose; the laxative is best taken in syrup or molasses. The ointment need not be kept on more than an hour each time.

There is a troublesome itching and dryness of the scalp, due to a form of eczema, and characterized by scales of dandruff. An ointment of sulphur will cure if the hair is removed, or possibly without removal, after infinite pains; but the head would always be untidy and defile everything with which it came in contact. If an ounce of fine sulphur be put in a pint of water and allowed to stand for a few hours, being agitated gently during the time, a certain amount will remain suspended in the water. Now decant, pass through a fine wire strainer or a coarse cloth, and the decanted liquid will be comparatively clear and contain a small percentage of sulphur. This may be made very useful. It will at once relieve the itching, and, if used persistently,

will cure the disease entirely, if applied often and thoroughly, so as to saturate the hair and wet the skin. The addition of 1 ounce of glycerin and 2 or 3 ounces of rose-water will do away with the odor and continue the action of the lotion on the skin. Seiler's antiseptic tablets may be used with the mixture and will hasten the result. One tablet should be used for every 2 ounces of the solution. I believe I do not speak too confidently of absolute cure in the end if the application is thorough and persistent. The same mixture may be used for eczema of the arms with a certainty of relief, and possible cure, when coupled with cleanliness.

The sulphur ointment would be efficient also and cure many cases, but in the obstinate cases an occasional application of resorcin in solution in alcohol (10 per cent.) is a very necessary helper. Perfect cleanliness, coupled with removal of the hair, should precede its application. Sulphur would in nearly all these cases be a cure if used alone.

It is possible that its popular reputation as an internal remedy in piles may be due to both its laxative action and its specific action upon the skin, as it passes outward with the feces and also through the pores of the skin.

A case of congenital eczema with a possible syphilitic taint did not yield to the most active treatment usual in such cases, until the sulphur treatment was added internally and externally, when prompt change for the better took place. Another child has since been born in the same family. The taint being on the mother's side, I gave her, before the birth of the second child, mercury iodide and a compound sulphur tablet three times daily (sulphur, cream of tartar, and arsenic). She also took cod-liver oil and potassium iodide with vegetable alteratives. The second child is now one year old and shows no signs of the taint. The sulphur seemed to have materially assisted, since improvement was more rapid than in most cases of alternative treatment. The mother has no external signs of eczema at present, although her taint is inherited and not acquired, and has shown itself through most of her life.

In another recent case, after the birth of a child the mother was afflicted by an acute eczema covering the larger part of the skin. She suffered extremely from itching and heat, sometimes with rigors (which were probably of nervous origin), and slight fever. I used salicylates and a tablet of sulphur compound, after using zinc, mercurial, resorcin, and other ointments, without

much effect. With the change came immediate alleviation of suffering. Salol administered internally helped to abolish the itching. This woman had had previous attacks, and there was a history of ancestral taint.

Chrysarobin, tar, and resorcin must be relied upon mostly for the cure of psoriasis. One obstinate case came under my care after being treated by other physicians. Some improvement took place with chrysarobin, but I met with all the difficulties attending its use. The thickened skin was difficult to soften and scale off. If too much was used, fever, local inflammations, discoloration of skin, and purple hair resulted. Tar was not efficient. It being impossible to use chrysarobin, on account of the above symptoms, I used a sulphur ointment, 1 or 2 drams in  $\frac{1}{2}$  oz. of lard and  $\frac{1}{2}$  oz. of zinc oxide ointment, and found it a fairly good substitute. I combined it with a tar ointment occasionally, and thus slightly increased its efficiency. This case, of more than twenty years' standing, was cured entirely, and sulphur should have the credit of being a helper.

A solution of sulphurous acid is desirable in almost any place where sulphur would be efficient, while the fumes are valuable for disinfecting and sanitary purposes, and, if they can be brought in contact with the skin, will help to cure eczemas. Fine sulphur stirred up in a bath-tub of hot water for fifteen to thirty minutes is very valuable in skin diseases, and if alkaline remedies are added, is good for rheumatism. Thus it is possible to have sulphur springs at home; internal medication is necessary at the same time, and among these remedies sulphur should be often used. The hot springs so much frequented by rheumatic patients nearly all are dependent on sulphur and alkalis united with heat for their curative effects. The mud baths near the hot springs owe their virtues to the presence of these agents.

The closed cabinet may be utilized as a means of confining the fumes of burning sulphur and keeping them in close contact with the skin, while the head and nostrils are free from the danger of partial strangulation. In using this cabinet the body should, of course, be relieved of all clothing so as to secure thorough contact.

The derivatives of sulphur and its compounds also are, most of them, powerful for good in medicine. Many of the sulphites and sulphates are of more value than sulphur itself, and the field is very broad and only half explored. They are not many of them of special value for external

use. Of their internal use, we will speak a little later.

The ingenuity and knowledge of expert medical chemists will undoubtedly eventually find new mixtures and chemical compounds which will be of great use, while free from the objections to the sulphur itself. The odor is bad and it is not soluble to any extent, while some derivatives are free from these objections and lose nothing of efficiency.

As a witness of how a powerful but dangerous and disagreeable medicine may be modified, we have only to recall what has been accomplished in the case of creosote. First, beechwood creosote was substituted for all other kinds, with decided advantage; then guaiacol, which is a great improvement on the creosote; and finally such modification as is found in the case of thiocol, which is the equal of guaiacol in effectiveness and a decidedly more pleasant medicine to administer.

The writer has employed a pill of arsenic, nux vomica and sulphur as an alterative and laxative, where there was a taint of some kind by inheritance or otherwise, and has been satisfied as to the result. The sulphur has apparently acted as a bowel disinfectant and seemed to do as well in the mixture as salol in similar mixtures for disinfection of the stomach and bowel.

In this pill the amount of sulphur is small, but if given three times daily keeps the bowel open and the food moving toward the outlet, usually with proof of improved digestion as evidenced by the dejections. There is less gas in the upper bowel and less trouble in the stomach digestion, due to disinfection and increased power of digestion from the use of nux vomica and arsenic. Pepsin is sometimes added to help the digestive act.

The sulphur of the compound licorice powder is one of its important ingredients. The popular prescription of sulphur in milk for hemorrhoids seems in some cases to be efficient when there is itching of the mucous lining.

It is a very valuable addition to the old pile suppository of galls and opium of the U. S. Pharmacopœia. To each suppository should be added 2 grains of sulphur; this requires a little more cocoa butter and a slight increase of bulk in each one.

Suppositories containing 3 grains of sulphur are more beneficial than the taking of sulphur in milk per os, since contact is direct with the diseased surface. Such suppositories must be used at least three or four times daily to obtain the result sought. The itching is soon relieved. This sup-

pository is most efficient when there is pruritus of the mucous membrane, and hence is the old person's friend. Powdered sulphur is often very valuable in itching of the female external genital organs, and the vagina. It should be used with bismuth in excess. Some of the most common and successful uses of sulphur are to be passed by for the reason that they are so well understood.

The object of this article is not to describe so common a thing as sulphur, but to try to awaken an interest and stimulate research, so as to extend the usefulness of the drug.

The use of sulphur as a disinfectant and for destroying germs in houses and places where the germs of contagion exist is a problem that is not fully solved. If it will not destroy the germs of disease when used alone, it, by its ability to burn readily, may be used to volatilize other more powerful agents, so that the combined effects of the sulphur fumes and those of the other agent shall be more powerful than either alone. Under such combinations as any one can readily devise, few microbes could survive.

Explosive mixtures would perhaps be possible in the hands of an ignorant person, but the blind must not handle edged tools. Every powerful medical agent must be handled just as carefully. In this way the fumes of calomel and mercuric chloride may be combined, the mercurial being sublimed by the heat of the burning sulphur. Liquids may be evaporated in a similar way, and safely with a little mechanical skill. The various vegetable insect powders may be burned with sulphur and so thoroughly destroy insects such as roaches, fleas, mosquitoes and moths; buffalo bugs will also yield to the fumes of such a combination. In any house where filth and contagion exist sulphur is a very good thing to use before and after a thorough washing. There should be exposure for some time if only the fumes of sulphur are used. Let carpets and bed-clothes and room be saturated with it and remain a long time without exposure to outside air. I would not expect to find many germs in a house subjected to thorough fumigation by one of these plans.

Ichthyol owes a large part of its very valuable properties to the sulphur it contains. Ichtharganis a compound of silver and ichthyol, and ichthoform a condensation product of ichthvol and formaldehyde. The value of ichthvol in erysipelas, carbuncle, inflamed glands, consumption, and for internal medication and disinfection, must to some extent depend upon sulphur. The

sulphites are of value in visceral germ-infection, but alone are not capable of dealing with septic constitutional conditions. Sodium hyposulphite is sometimes a complete cure for water-brash, given in 10-grain doses, largely diluted, about one hour after eating and at bedtime. The various sulphur acids have similar disinfecting and cleansing powers. Zinc sulphocarbolate is valuable as an internal remedy.

So many are the valuable derivatives and mixtures containing sulphur that for want of space we must dismiss them with the remark that very few can be left out by the physician who carries a full quiver for the destruction of disease.

## ACUTE CATARRH OF THE INTESTINES AND ITS TREATMENT<sup>1</sup>

By Boardman Reed, M.D.

WITH his customary lucidity, this well-known author discusses the above subject. He says:

Acute enteritis is considered by some authors the most frequent disease of the bowels; but the chronic form of intestinal catarrh, involving the small intestine and having constipation as its main symptom, is probably still more prevalent, though very often overlooked. Acute enteric catarrh may affect the entire gut at once, or be limited to any part of it. When its chief seat is the upper part of the small intestine (especially the duodenum), catarrh of the stomach almost always co-exists, and *vice versa*. The colon alone, or any part of it, may be affected, especially the cecum or the rectum, without the involvement of the small intestine, but, according to Nothnagel, it is very unusual for the ileum to be the seat of catarrhal process without the colon's being also to some extent implicated.

*Etiology.*—A most important light has been shed upon intestinal diseases through the recent exact studies of the digestive system. It has been shown that the secretion of HCl in the stomach is very frequently excessive, and the obvious inference is that when this continues in high degree for a long time, the mucous membrane of the upper intestine, that of the duodenum especially, is likely to become irritated and finally involved in a catarrhal process. It has been noted, too, by many observers, that long standing cases of hyperchlorhydria are often associated with constipation, which seems to be a result, being usually relieved when the hydrochloric acid excess has been overcome. And constipation is a frequent

<sup>1</sup> *Internal. Med. Mag.*, x, No. 2.

cause of enteric catarrh in both its acute and chronic form. It has been observed, also, that a very low or absent gastric secretion is often apparently a direct cause of diarrhea. In stubborn intestinal catarrhs, therefore, it is very important to know the state of the gastric secretion, and to correct it when abnormal. Acute enteritis is sometimes caused by corrosive poisons, especially overdoses, or the too frequent repetition of purgatives. In persons predisposed to such attacks cold may be the cause; especially prolonged exposure to wet and cold. But by far the most common causes of the affection are infection from spoiled or decomposing food and the irritation from indigestible, or at least undigested, aliments. This may result from an improper kind of food, as well as from too hot or too cold ingesta, or an excess of proper food; also from eating when, on account of either great fatigue, overheating, or powerful emotions the usual digestive processes are interfered with. Burns over the abdomen may also set up a catarrh, or even acute ulceration in the intestines. Malarial infection, tuberculosis, typhoid fever and other diseases may be accompanied by a secondary acute enteritis.

*Symptomatology.*—Diarrhea is the predominant symptom of acute intestinal catarrh, and probably occurs in all cases, with the exception of those in which the process affects the stomach and duodenum only. It usually comes on suddenly, the stools, to the number of three to six, or, even exceptionally, ten to twenty in the twenty-four hours, being at first semi-solid, then mushy, and later gruel-like, dark, offensive, and mixed with firmer masses or scybala, but still later almost odorless, of a pale yellow, or grayish color, and containing considerable quantities of mucus. In young infants the stools are often green. Pains in the bowels, often severe and colicky, generally precede the attack, and often recur with each stool. Tenesmus points to involvement of the rectum. In typical cases there are gaseous rumblings, a vague sense of general discomfort, and very frequently nausea at first, which may go on to vomiting, especially when the attack has been due to imprudence in diet with an overloading of the stomach, and when the appendix is involved in the acute catarrhal process.

Digital exploration may discover hard, fecal masses in the rectum, especially in cases where neglected constipation has been a cause of the enteritis. Deep palpation frequently produces pain over the course of the colon, when this part of the bowel is much involved. This sign, together with a larger amount of free mucus with the

stools, will help you to differentiate a colitis from inflammation of the small intestine only. Boas is authority for the statement that in colitis bilirubin cannot be recognized in the stools, having been converted into urobilin.

Some rise of temperature is a usual accompaniment in marked cases, especially those due to infection. Fever is nearly always present when the patient is an infant or young child, but is less constantly seen in older patients. Various degrees of exhaustion and nervous derangement may result, the form and severity of such phenomena depending upon the age, temperament, and previous strength of the patient. The urine becomes scanty, high-colored, and often loaded with indican. Albumin and even hyaline and blood casts may also appear in the urine during the attack, disappearing after convalescence.

*Diagnosis.*—Primary acute enteritis does not closely resemble any other affection. Cholera morbus and cholera infantum, which are the most like it of any, are easily differentiated by the early and severe gastric symptoms, their more rapid and violent course, including the early serious prostration and wasting, and pronounced and very painful cramps. It would not be possible to diagnosticate, from simple acute enteritis, the precursory diarrhea of Asiatic cholera, but later the rice-water stools, containing the comma bacillus, would be decisive.

Serous diarrhea from nervous causes is recognizable by the character of the stools and the absence of all inflammatory symptoms, including mucus in the stools and of tender spots over the abdomen.

*Prognosis.*—Uncomplicated acute intestinal catarrh is rarely fatal, except in infants under three years, and even in the latter is nearly always curable, provided the child can be kept under the best possible hygienic conditions, removed to the seashore or mountains, when the attack occurs in hot weather, and have a suitable diet, including good breast milk for those not yet weaned, or fresh cow's or goat's milk, properly modified and combined, for the older ones.

In very old or debilitated persons, too, the affection is sometimes fatal, but generally because of incurable disease in the stomach, heart, liver, lungs or kidneys, of which it is merely a complication.

*Treatment.*—In no acute disease is the proper treatment simpler or more uniformly successful than in enteritis; and yet probably none is oftener wrongly treated. The indications are, first, to remove promptly and thoroughly the noxious cause, instead of waiting for Nature's slow efforts to ac-

compish this by diarrhea, and next to give as complete rest as possible to the temporarily crippled digestive system. When you have secured these two conditions, Nature will quickly effect a cure in the great majority of cases without other aid. Elimination and functional rest must then be the keynotes of the treatment; and in severe febrile cases rest in bed should be enforced. The emptying of the alimentary canal can generally best be accomplished by some gentle laxative, though if the symptoms are urgent, as when there is high fever, convulsions or other serious nervous complications, pointing to grave autointoxication, you should also cleanse the colon at once by a copious irrigation with a warm saline solution, to which some antiseptic may be added. For the laxative, a saline or castor oil in not too large a dose (say one to four teaspoonfuls of the latter) usually proves efficient, but no single remedy acts so magically as a mild mercurial purge, preferably calomel in the dose of  $\frac{1}{20}$  to  $\frac{1}{6}$  grn., according to the age, mixed with 1 grn. of sugar of milk and repeated every half hour, until a favorable change of color appears in the stools. Not more than six to ten doses should be needed to restore the normal dark yellow color, or at least a rich golden yellow, showing an increased content of bile, and at the same time to remove in a few hours all the worst symptoms. The author states that he will not attempt here to answer the objections which have been urged against this remedy, nor to speculate as to how small doses of calomel accomplish such strikingly good results. It is sufficient to emphasize the often observed clinical fact that the remedy will cure rapidly, pleasantly, and harmlessly in most of these cases, provided at the same time the digestive system is allowed to rest, the food being either wholly stopped for a day or two, or (when this is impracticable) limited to the lightest possible articles, such as a few spoonfuls at a time of toast water, egg water or rice water in babies, and very small feedings in adults of wine whey or the weakest broths. If, by the second day, with such a treatment, the patient is not well, or so nearly so that manifestly nothing further is needed beyond a day or two more of functional rest through a severely restricted diet, you may administer one-half the former dose of calomel every two or three hours, for one day longer. If there should then be still a tendency toward diarrhea, it would indicate either an exceptionally severe infection or that there had been previously a chronic catarrh, involving portions of the intestines, and often the stomach as well. This chronic

process after the subsidence of the acute attack would prevent an early return to normal conditions and demand further treatment. Some one of the bismuth preparations, given in a simple mixture of mint water and lime water, after every stool, should then prove efficient in controlling the remains of the diarrhea. The following formula usually does well:

Bismuth Subnitrate.....	3	dr.
Tannalbin.....	5	dr.
Chalk Mixture.....	to make	4 oz.

Shake well before using. One-half to two teaspoonfuls, according to age, after every loose stool.

When much pain or frequent loose movements persist, as will very rarely happen if the above-mentioned plan is carried out in its entirety, the foregoing prescription may prove more rapidly effective with a few drops of paregoric or deodorized tincture of opium added to each dose.

Another good formula for stubborn cases is the following:

Ichthalbin.....	} of each,	2	dr.
Tannalbin.....			

Divide into 15 powders. One to two powders in milk or water upon arising, at bedtime, and after each loose stool.

Remember especially that during the first day or two the important thing is to assist Nature in clearing out the alimentary canal, and to spare the digestive organs by allowing the smallest possible amount of nutriment. To give an astringent before the bowels have been thoroughly emptied is never useful or justifiable, but always harmful and sometimes disastrous. The early use of opiates should be equally avoided, except in the presence of intolerable pain, and even then a further gentle use of laxatives in addition to antacids, combined if need be with an antispasmodic, such as the annexed prescription calls for, is generally all sufficient and far safer:

Tinct. Cardamom Comp.....	6	dr.
Arom. Spt. Ammonia.....	3	dr.
Spt. Chloroform.....	to make	2 oz.

Teaspoonful in half glass of hot water every hour or two till relief.

When the colon is solely or chiefly involved, cleansing from below by irrigations with saline, soothing, and antiseptic solutions sometimes offers advantages, especially in proctitis, though in chronic colitis these local measures play a more important rôle than in the acute form. In simple acute, non-dysenteric colitis, rest of the whole body by confinement to bed and rest, especially of the digestive organs, with elimination by laxatives, will usually cure within a few days.

The diet for the exceptional cases that linger on longer, in spite of the treatment

above laid down, should comprise, mainly, thoroughly fresh milk, boiled and mixed with lime-water or peptonized (and in children properly diluted and modified to approximate it to human milk), fresh beef juice, pressed out of a broiled steak, soft-boiled or poached eggs, or egg water for children, some of the prepared foods, whey, koumyss, and later chopped beef, toasted bread, *sweiback*, boiled rice, and the best of the various biscuits (crackers) on the market. All the vegetables and fruits should be avoided. When the gastric juice is found deficient, HCl and pepsin may be given, especially when the diet is increased. In the cases in which there is an absence of gastric secretion, with atrophy of the glands, the preparations of pancreas may be administered hopefully with or after food. When the hydrochloric acid secretion is excessive, on the other hand, the preparations of chalk and bismuth should be administered with silver nitrate and, if need be, belladonna, but never opium, which increases the secretion.

### TREATMENT OF ACUTE NEPHRITIS<sup>1</sup>

By John Perrier, M.D.,

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In the treatment of acute nephritis two important points should be kept in view, *viz.*, the relief of the vascular engorgement of the kidneys, and the elimination of the toxins retained in the blood as a consequence of interference with the renal function. First, the patient should be put to bed between woolen blankets, in order to promote the free action of the skin and induce sweating. To encourage profuse diaphoresis, give hot drinks freely; hot lithia waters, hot lemonade, or plain hot water. Solution of ammonium acetate may also be given if fever be present, with tincture of aconite or *veratrum viride*. The bowels should be moved freely with saline cathartics in hot, concentrated solution, this being kept up daily until improvement in the renal functions occurs. The diet should be light and at first confined to bland, nutritious liquids. These measures may be sufficient in mild cases, but where the case is severe or resists the milder methods, it may be necessary to use the hot-air bath, which can readily be done with patients in bed by means of a lamp and tin pipe suitably arranged so as to have the hot air pass beneath the bed-clothing.

In severe cases there is usually nausea and vomiting, which may be relieved by

hot water, in tablespoonful doses, frequently repeated, carbonated waters, cracked ice, koumyss, bismuth with small doses of morphine, and sinapisms over the epigastrium. The diet should be extremely simple at first: equal parts of milk, with carbonated water, koumyss, fresh buttermilk, barley water, light broths, but no concentrated meat fluids.

Where the urine is very scant, or if suppression exists, hot linseed-meal poultices, containing a tablespoonful of mustard, applied over the loins and changed at intervals of four hours are generally successful. The author has never found it necessary to use leeches or cupping over the loins, so much recommended formerly.

In the nephritis of scarlatina, where uremia is threatened or has already occurred, the author found the hot pack most successful in relieving the urgent symptoms and restoring the renal functions. If convulsions occur, chloroform may be used to control them, after the hot pack has been applied. Hypodermic injections of pilocarpine are recommended by some authors and condemned by others. In the author's opinion, if the heart's action is weak, it is very dangerous and should not be used, but where the heart is strong and the pulse full its action in causing profuse sweating is valuable. In the uremia of acute nephritis, when all other means fail, resort should be had to that most valuable of remedies, the subcutaneous injection of normal saline solution. The amount given should be at least 1 quart, and repeated every six to twelve hours until relief is obtained. A fair-sized aspirating needle may be attached to the tubing of a fountain syringe, and with thorough aseptic precautions the solution injected in the cellular tissue of the breast, axilla or thigh. Its immediate effect is to relieve the vasomotor constriction, probably by diluting the toxins in the blood, and thereby favoring elimination by the natural channel. High enemas of the same solution may be substituted for the subcutaneous injection, but are not nearly so effective. The most effectual cathartics in uremia are elaterium or croton oil, the latter in  $\frac{1}{2}$ -drop doses every hour until the bowels have moved freely. The oil may be combined with small doses of calomel and, after being rubbed up with sugar of milk, placed upon the patient's tongue, even when unconscious. After relief of the urgent symptoms, as the renal secretion increases and improvement follows, little medicine is needed, but the free use of the natural lithia waters should be continued and kept up for some months after convalescence is

<sup>1</sup> *Cleveland Med. Gas.*, xvi, No. 4.

established. The diet may be gradually increased, considerable amounts of milk being given in the twenty-four hours. Farinaceous foods may be given freely, but no meat should be allowed until albumin has disappeared from the urine, which should be examined at frequent intervals for that purpose. If the appetite remains sluggish, small doses of quinine in solution, or any of the other bitter tonics, will assist in restoring it. The anemia that usually accompanies renal affections will require special attention. The patient should be cautioned against exposure to cold, and advised to wear woolen or other warm underclothing to protect against sudden changes of weather. Alcoholic stimulants should not be used during the attack of nephritis, and ought to be strictly forbidden after.

### THE GLUCOSIDES OF DIGITALIS, WITH ESPECIAL REFERENCE TO DIGITOXIN<sup>1</sup>

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IN the present state of our knowledge of the digitalis glucosides, the writer states, there is a great diversity of opinion among authorities, and much confusion prevails in the minds of clinicians regarding the several active principles of digitalis. It will not, then, be amiss for the writer to add his testimony to the great mass of literature on the subject, especially if he undertakes to bring out of the existing chaos some sort of order. As the title of this paper suggests, digitoxin has been chiefly considered, but other preparations of the foxglove had to be studied, in order that the relative strength of the former might be estimated, and comparisons have, of necessity, been made with the commoner preparations, such as the tincture, fluid extract, and infusion of digitalis; comparisons likewise have been made with the so-called "standardized and physiologically tested" powdered solid extract, and with the various digitalis glucosides, especially the digitalins. The physiological activity and relative strength of digitoxin was also estimated by clinical comparisons with the several strophanthus preparations, more especially, though, with the standardized tincture of strophanthus, which, from a clinical standpoint, is one of the most uniformly active preparations supplied us in recent years by pharmaceutical skill. Finally, the available literature on the subject of the digitalins, cumbersome

and confusing as it all is, and the meager literature on digitoxin, has been carefully reviewed and represents partly the information from which conclusions may be drawn at this time and in this paper. According to our present indefinite knowledge, the digitalin glucosides may be enumerated as follows:

1. Digitalin, pure powder—Germanic, or *Digitalinum Germanicum*, a yellowish-white powder soluble in water and alcohol, hardly soluble in ether and chloroform—obtained first by Schmiedeberg, in 1874. It is the combination of the glucosides digitalein, digitin, digitonin, and digitalin-Kiliani as they exist in digitalis.

2. Digitalin, pure amorphous—so-called chloroformic digitalin or *Digitalinum gallicum*, Homolle's or Quevenne's digitalin, also called *Digitalinum amorphum*, a yellow powder, insoluble in water, soluble in alcohol and chloroform—contains chiefly a glucoside analogous in action with digitoxin. This preparation is identical with the digitalin of the British Pharmacopœia and with that in older editions of the U. S. Pharmacopœia; the process for the extraction of the same was removed in the 1880 revision, because of the indefinite product it yielded.

3. The so-called *Digitaline française cristallisée*, or Nativelle's digitalin—a very active preparation; white, shining crystals, soluble in alcohol or chloroform, hardly soluble in water or ether, containing chiefly digitoxin and a little digitalin. Nativelle obtained the Orfila prize in 1871 for this digitalin. On account of its contained digitoxin, it has been advised, chiefly by the Germans, not to use it hypodermatically, fearing abscess; the fact that it contains digitoxin, no doubt, explains largely its activity. It produces no abscess.

4. Digitalin, true, Kiliani, or so-called *Digitalinum verum*, seemingly identical with the digitalein of Schmiedeberg.

5. Digitoxin, a white, crystalline powder, soluble in alcohol and chloroform, slightly soluble in ether, insoluble in water; the most active preparation among the digitalis glucosides and the most prompt.

6. Digitophyllin of Kiliani, a crystalline substance resembling digitoxin, soluble in chloroform, not yet thoroughly understood; has the probable formula,  $C_{22}H_{32}O_{10}$ .

7. Digitalein, soluble in ether, water, and alcohol; an active cardiac stimulant.

8. Digitonin, readily soluble in water, less so in alcohol; a direct cardiac depressant, resembling saponin, and is irritant to the stomach. It is the most active diuretic principle in digitalis.

<sup>1</sup> N. Y. Med. Jour., Feb. 9, 1901.



## 9. Digitin; therapeutically inert.

H. C. Wood, Jr., and J. P. Arnold, in a contribution to the *American Journal of the Medical Sciences* for August, 1900, affirm that the digitalin-German, as prepared by Merck, is physiologically uniform in action and stable in its composition. Identical results were obtained by them with a sample two years old, and with a fresh sample, both from the Merck laboratory. The author states that his own clinical observations with digitalin-German, Merck, verify the results obtained by the two last-named experimenters. The product was found by him to be entirely uniform in its action, and, in a proper dose, from  $\frac{1}{32}$  to  $\frac{1}{4}$  grn., very reliable. As for digitoxin, it was found, contrary to Bardet's experience, to be soluble in chloroform, and instead of being only one-third to one half as strong as chloroformic digitalin, it proved to be, in reality, from three to four times stronger. "Indeed," the writer concludes, "the statements that digitoxin is the most active of all the digitalis glucosides, the most prompt, the most powerful, the most reliable in its composition and in its therapeutic effects, have all been abundantly realized in my hands."

*The Choice of a Digitalis Preparation.*—In the choosing of a preparation of digitalis, the profession is, as a rule, entirely too lax, and too indefinite an idea is ordinarily had of the work expected of the preparation in question. Among the several points which arise, when we are about to order digitalis, the following are most important:

1. Shall the effect be immediate or is only a slow result required?
2. Is a cardiac action chiefly desired?
3. Is a diuretic action chiefly desired?
4. Shall the action be both cardiac and diuretic?

The solubilities of the several digitalis principles are, as already stated, not identical, therefore the activity and virtue of a tincture (or a fluid extract) of the drug is not identical with that of an infusion, nor does either of these preparations represent the entire activity of the plant. In fact, but one preparation of digitalis does fully represent the drug, and this is the powdered leaves, which have the most irritant effect on the stomach of all the digitalis preparations.

The Swiss preparation, which is known as the "dialysate of digitalis," is made by a special dialyzing process of the freshly plucked leaves with water and alcohol—each part by weight of the "dialysate," it is stated, corresponding exactly to a part by weight of the plant. The last-named preparation is said to be very active and reliable.

In the tincture, as well as in the fluid extract, on account of their solubility in alcohol, digitalin and digitoxin chiefly preponderate, but there are found also some digitalein and digitonin in these two preparations. The action is therefore chiefly cardiac and slightly diuretic. The infusion containing little, if any, amorphous digitalin or digitoxin, but considerable digitonin, as well as some digitalein, is the best diuretic preparation of digitalis. In prescribing the tincture, it is well to remember that the addition of water modifies the virtue of the preparation by precipitating the contained digitoxin. If water is taken with the dose, any precipitate that settles to the bottom should be swallowed. It is best to exhibit this preparation in capsule.

*Indications and Contraindications.*—We are taught that digitalis is indicated wherever there is failure in the dynamic power of the heart muscle, especially if, at the same time, arterial tension is low; but it is surprising—and this point must be emphasized—what benefit follows the administration of the drug in cases where, on theoretical grounds, consensus of opinion would advise us "best to avoid it." This not infrequently happens in aortic regurgitation. Again, great vascular excitement, high arterial tension—the latter as found in chronic nephritis—and existing hypertrophy of the heart, provided it is complete, contraindicate digitalis; the nitrites, under such circumstances, make an admirable addition to the drug, especially nitroglycerin, which, obviating arterial constriction, often permits of the use of digitalis when it would otherwise be impossible to exhibit it. A course of iodine—potassium or other iodide—preceding the digitalis or accompanying its administration, has been found highly satisfactory in some cases, especially where the drug is contraindicated in arteriosclerosis; in the latter condition, high vascular tension sooner or later disappears, and then digitalis will serve its usual good purpose. In the issue of *Therapie der Gegenwart* for March, 1900, is the account of an autopsy on a middle-aged man; the report is of present value: Cor bovinum, moderate stenosis of ostium aorticum, aortic aneurism, arteriosclerosis of kidneys—and notwithstanding the existence of these conditions (any one or all of which would ordinarily contraindicate digitalis) the patient had been kept "comfortable, in fact, in good health," for a period of eight years by the daily administration of from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  grains of the powdered drug. During these eight years, it is calculated that the patient took something less than 10 oz. of digitalis.



His death was sudden, following an unusual physical exertion.

**Cumulative Action.**—This may be entirely avoided by carefully watching diuresis and by diminishing the dose or exhibiting the drug at longer intervals, say, once in twenty-four hours; occasionally, it is well entirely to skip a dose or two. For long-continued use, it is proper to give a diuretic with the digitalis periodically; in this respect it may be well to remark on the usefulness of calomel in combination with digitalis. In the *Practitioner* (London) Groedel says that cumulation is due to too large doses given after too short intervals, and he attaches the blame to the physician's hurry to obtain an effect without proper regard for elimination. It is well to bear this in mind.

**Relative Cardiac and Diuretic Action of the Digitalis Derivatives.**—Digitin, being therapeutically inert, will not be considered.

Digitonin is a direct cardiac depressant, resembling saponin, and, like it, directly antagonizing the cardiac action of digitalin, digitalein, and digitoxin, by repressing the vagus centrally and peripherally. It is the most active diuretic principle among the digitalis glucosides, as already mentioned; but it irritates the stomach very much.

Digitophyllin has been used to a very limited extent. Its action resembles that of digitoxin; like the latter, it is prompt and energetic and may, some day, enjoy wide use.

On the heart, and on the circulation in general, the three digitalis glucosides, digitalin, digitalein, and digitoxin, have effects much in common. There are, however, certain well-defined differences, which will shortly be outlined. All three can be called true heart stimulants, acting directly upon the heart muscle, making the pulse stronger and firmer; but digitalin stands alone and is unique because of its *special* influence upon the vaso-motor center, on the medulla, and upon the ganglia in the muscular coat of blood vessels, contracting the blood vessels and thereby raising arterial pressure. Digitalin also slows the pulse, by directly stimulating the cardiac ganglia (acting upon both the roots and the ends of the vagus). Digitalein and digitoxin do not directly raise arterial tension, nor do they directly slow the pulse. Professor Kobert has demonstrated, however, that both of the latter *dilate* renal blood vessels, increasing the flow of urine, and this action makes these two principles also unique, greatly enhancing their therapeutic virtue and value. It has already been stated that the diuretic action of digitalis is best exhibited in car-

diac affections accompanied by low arterial tension. In a healthy state of the heart and circulation, diuresis is usually wanting.

And now, continues the author, we have come to the most important part of our subject, namely:

**Digitalin and Digitoxin Contrasted.**—This study was made with Merck's digitalin, German, and digitoxin, Merck.

Digitalin-German, Merck, is a yellowish-white powder, soluble in alcohol and water; almost insoluble in ether and chloroform.

Digitoxin, Merck, is a white, crystalline powder, insoluble in water, but soluble in alcohol and chloroform, and slightly so in ether.

Dose: Digitalin (German), from  $\frac{1}{32}$  to  $\frac{1}{4}$  grn.; digitoxin, from  $\frac{1}{1000}$  to  $\frac{1}{350}$  grn., up to  $\frac{1}{40}$  grn. daily (regarded as the maximum quantity of the latter).

Digitoxin is the chief ingredient in the leaf of the foxglove, and the latter should, in the author's opinion, be standardized in terms of its contained digitoxin. By means of ether, digitoxin may be obtained and removed from an extract of the leaves. Contrary to Schmiedeberg's statement that digitoxin is *not* a glucoside, it is possible by means of heat, in the presence of an alcoholic solution of hydrochloric acid, to split up the digitoxin into digitoxose and digitoxigenin.

As a diuretic, digitoxin is superior to digitalin, since it actually dilates the renal vessels, while stimulating the heart. Furthermore, its action is prompter and more certain than that of digitalin. It manifests its effects oftentimes within twelve hours, and is less liable to cumulative action than digitalin. Because of the uniformity of its action and of its energy and strength, no doubt, digitoxin has the brightest future of all its sister glucosides. Masius, who has employed it considerably, styles the action "certain, quick and energetic." He has used as much as  $\frac{1}{40}$  grn. a day. Heger believes that the action of digitoxin is chiefly on the left ventricle. Van Aubel classes it as "the most prompt, reliable, and powerful derivative of digitalis." After discontinuing the use of the drug, the influence of digitoxin is said to persist, sometimes, for from eight to ten days. Under Professor Unverricht, in the Municipal Hospital of Magdeburg-Sudenburg, Wenzel has experimented with the drug and declares it to have been useful in certain cases where other preparations, including the infusion, had failed. To avoid digestive disturbance, Wenzel employed it chiefly by enema, giving about  $\frac{1}{30}$  grn. in 10 min. of alcohol and 4 oz. of water. The action upon the heart, as observed in

these experiments, was quite pronounced; at first, three rectal injections were given daily (previous thorough cleansing of the bowel being presupposed); afterward, only two injections were used; and, finally, only one was found necessary, in order to maintain the first effect produced. In the writer's hands, digitoxin has been given in a series of cases—of late chiefly hypodermatically, but also by the mouth (*always after meals*). It was the exception to see any digestive disturbance when  $\frac{1}{500}$  grn. or less of digitoxin was being given, three times daily; digitalin, however, not infrequently had caused, in his hands, some such unpleasant accessory effect. The action of the smaller doses of digitoxin has been so satisfactory that the author has not had occasion, in the majority of instances, to employ more than  $\frac{1}{500}$  grn. and never over  $\frac{1}{250}$  grn. In no case did an abscess ever result from the hypodermic syringe. A very hard infiltration edema usually followed the injection, until, after many pricks of the needle, the tissues about the point of puncture became stiff and rigid, interfering somewhat with the function of the part (as about the arm or leg). Pain was almost invariably complained of when the medicine was given by this route, but it never continued long. If the arm was being used, it would become tender, and, from the great amount of infiltration for the time being, function would be modified. However, these symptoms and signs disappeared promptly with the withdrawal of its administration by this route. "I am aware my experience in several ways does not coincide with that of Wood and Arnold, who find the drug too irritating for administration by the mouth, and report it as liable to cause abscess when injected hypodermatically." A local chemist and experienced tablet manufacturer prepared the drug for the writer in hypodermatic form; at first tablets of  $\frac{1}{1000}$  grn., later  $\frac{1}{500}$  grn. By the mouth, the cardiac action was not so pronounced as when the drug was thrown under the skin. Under any circumstances, however, it mattered not by what route digitoxin was introduced, there was invariably an effect of which not only doctor, but often patient as well was aware, digitoxin being an agent the influence of whose action is a perceptible one. One patient, an elderly lady with myocarditis, who suffers recurring attacks of tachycardia and whose vitality is often at a low ebb, describes the action as "sustaining," and says that her strength is always reinforced by the dose. It was sometimes observed that the bowels were relaxed while digitoxin was being taken, this chiefly oc-

curing when the dose was exhibited by the mouth; however, laxative action was by no means the rule.

It having been urged that digitoxin in solution is likely to become insoluble on coming in contact with the fluids of the body, the author never attempted until lately to give it in solution, except in hypodermatic solution, as already stated. A solution prepared for him by a local pharmacist and intended to be used internally—dose, one teaspoonful—without instructions as to how he should prepare it, contained 50 per cent. of alcohol; this was thought not only too much alcohol for the good of the stomach, but the solution precipitated when water was added; besides, it was feared that the alcohol might influence the cardiac action of the digitoxin; certainly, such a danger would not be insignificant if a solution of similar alcoholic strength was employed hypodermatically.

Where high tension existed, the combination of digitoxin with nitroglycerin acted admirably.

*Uses.*—Digitoxin has been especially recommended in chronic myocarditis and in cases of ruptured compensation. The following brief notes, the author concludes, taken at random from his history book, will illustrate the variety of purely cardiac and related conditions in which the drug has been employed by him:

Case I.—L. R., a young man, aged twenty-three years, came under my observation in July, 1898; diagnosis, mitral regurgitation, compensation ruptured. Patient was suffering with dyspnea, cough, a prune-juice sputum, cyanosis, edema of the lower extremities, urine half a pint in twenty-four hours. Doses of  $\frac{1}{1000}$  grn., later increased to  $\frac{1}{500}$  grn. of digitoxin, were administered, four times daily, by the mouth. The urine was much increased in twelve hours; it was doubled in twenty-four hours, and in another twenty-four almost a quart was passed; the cyanosis disappeared and with it the cough. After two weeks the patient was able to be up and about, and, in another week, to begin work (walking, as a collector, necessary). In several succeeding attacks, in which I saw him, the drug was just as effectual in relieving symptoms.

Case II.—Mrs. M. B., aged forty-one years, addicted to the use of strong drinks and a morphine habitué, came to see me in March, 1897. Diagnosis, chronic interstitial nephritis, with myocarditis. Digitoxin,  $\frac{1}{1000}$  grn., every four hours (five doses daily), was ordered. The shortness of breath, palpitation, and precordial distress and headache disappeared after one week.

Case III.—Mrs. B., aged sixty-three years. Diagnosis, mitral regurgitation of two months' duration, following acute articular rheumatism; compensatory hypertrophy had not occurred. The condition was critical on account of pulmonary edema, pleuritic effusion, and almost entire suppression of urine; there were general anasarca, obstinate nausea and vomiting caused by acute parenchymatous nephritis. Doses of  $\frac{1}{500}$  grn., increased to  $\frac{1}{250}$  grn., of digitoxin by the mouth

were retained; the diarrhea which occurred was thought to be a natural sequence from defective kidney elimination and not due to the digitoxin, although the drug had relaxed the bowels in other cases.

The volume of the pulse improved, and the pulmonary signs disappeared after three days. The kidney action was the most prominent feature in this case, the quantity of urine reaching  $1\frac{1}{4}$  liter by the end of the week. The patient soon thereafter left her bed, compensation having been very satisfactorily established.

Case IV.—M. F., aged seventy-five years; diagnosis, acute ulcerative colitis, arteriosclerosis, with high-tension pulse; was seen by me through a long illness, during which the bowel trouble assumed a chronic type and the danger of death by cardiac asthenia became evident. The administration of digitoxin,  $\frac{1}{1000}$  grn., with nitroglycerin  $\frac{1}{100}$  grn., four times daily, was begun. The result was prompt and wholly satisfactory. The patient recovered, was once more able to appear on the streets, and lived over eight months.

Case V.—Mrs. R. D. A., aged seventy-two years. Diagnosis, myocarditis, with frequent attacks of tachycardia; has chronic interstitial nephritis. She was given digitoxin continuously for several months, as a substitute for digitalin, which had been taken previously, and for years; the paroxysms of tachycardia grew very much less frequent, and the lady, who is intelligent and watches the effect of drugs closely, declares that there is a "sustaining" influence noticeable as soon as she takes digitoxin.

Case VI.—Mrs. J. F., aged forty-three years, has been leading a very inactive and indolent life for the past three years, causing the accumulation of much surplus adipose tissue. Diagnosis, fatty infiltration of the heart; dyspnea was complained of upon the slightest exertion, and attacks of syncope were of almost daily occurrence. Digitoxin was employed,  $\frac{1}{1000}$  grn. every four hours (five doses daily), and massage with a modified plan of the "Schott method" of resisted movements and baths. The action of the digitoxin upon the heart and kidneys was perfect, recovery being complete within three months.

Case VII.—Mrs. A. L. L., aged twenty-six years. Diagnosis, asthma, cardiac in nature. Irregular, feeble pulse, more or less constant dyspnea, very much exaggerated during the frequently recurring paroxysms, loss of flesh and strength, palpitation. The severity of this patient's asthmatic attacks can best be judged by the statement that morphine did not relieve them, nor did the inhalation of chloroform or ether, pushed to the obstetrical stage. It was found that digitoxin invariably controlled the paroxysms.

Case VIII.—A. M., aged fifty-six years, minister. Diagnosis, Parkinson's disease. Upon his return from a certain health resort he was found to be suffering from acute bromism, the result of the prolonged use of large doses of the mixed bromides. There was a tendency to depression of spirits, with sudden bursts of emotion. The patient became angry upon slight provocation, would cry even when there was no provocation. The pulse was feeble and fast. The first dose of digitoxin,  $\frac{1}{1000}$  grn., given hypodermically, at 5 P.M., after an attack of syncope, had a remarkable effect. The patient in half an hour was up and had dressed, insisting upon going out, although his gait had been unsteady and tottering, and much weakness had been complained of one hour previously. The dose,  $\frac{1}{1000}$  grn., four times daily, hypodermically, was continued for two

weeks, the cardiac asthenia entirely disappearing and the psychical condition of the patient undergoing a salutary change as well.

Case IX.—Emil W., aged seventeen years. Diagnosis, dilated right heart. A frail lad, closely confined, running a machine in a contract sweatshop. I had treated him for some three years or more for a stubborn malarial cachexia. While climbing a steep hill on his bicycle, one Sunday morning, the patient suddenly felt an agonizing pain in his cardiac region. His "breath came short and quick," and he fell from his wheel. I saw him the same morning; dyspnea was marked, there was cough and frothy, blood-stained expectoration, the pulse was exceedingly feeble, but *slow*. Physical exploration made out a dilated right heart. Rest in bed, nutritious diet, and digitoxin,  $\frac{1}{1000}$  grn., every three hours, constituted the treatment. On the second day the interval between doses was increased to four hours, and, after two days, three doses daily of the digitoxin were administered, the symptoms justifying this infrequent exhibition of the medicine. Within two weeks the cardiac measurement was normal, and the patient has experienced no further trouble.

Case X.—Mrs. S., aged twenty-eight years. Diagnosis, mitral regurgitation. The patient had been an inveterate smoker of cigarettes, and otherwise was leading a riotous life. She suffered attacks resembling pseudo-angina pectoris and had been unable to lie down or to sit down for the most part of the day, when I saw her. Inhalations of amyl nitrite were practised, for the paroxysm, and the patient was put on digitoxin,  $\frac{1}{1000}$  grn. every four hours, later increased to  $\frac{1}{200}$  grn. The attacks became less frequent, and the patient enjoyed several months of complete freedom, finally dying suddenly, while in bed, after I had dismissed her from immediate care.

Case XI.—R. W., aged twenty-five years, suffering with typhoid fever. Strychnine had been employed, during the latter weeks of the disease, and continuously after convalescence had otherwise been well established, but the pulse continued to run up twenty to fifty beats per minute upon the slightest exertion, and severe palpitation with precordial distress would then be experienced. The strychnine was discontinued, and four tablets of digitoxin ordered daily ( $\frac{1}{1000}$  grn.). Within twenty-four hours the patient felt better, and, after three days, was able to walk half a mile without palpitation or much increase in the pulse rate. On the ninth day he was dismissed, having then completed his thirty-sixth tablet of digitoxin.

Case XII.—Mrs. J., aged forty-one years. Typhoid fever in 1897, treated by me. Since then, dyspnea upon exertion; the patient leads a very active, outdoor life; nevertheless, she has taken on flesh steadily. She complained of palpitation and darting pains through the region of the heart. Recently, I was summoned, to find her extremely dyspneic, with pulse 120, soft and easily compressible.

There were cough, numerous dry and some moist râles, and slight expectoration. The patient thought she was entering the climacterium, and that this explained her present indisposition. In order to make a comparative test of the cardiac activity of drugs, in this case, strychnine was first employed, after controlling the paroxysm with a morphine injection. There being no appreciable influence upon the quality of the pulse by the fourth day of its administration, digitalin was substituted, followed after another three days, because of lack of effect, by the infusion of digitalis, but this did not slow the pulse rate. Finally, digitoxin was administered in  $\frac{1}{1000}$  grn. doses. The ef-

fect was prompt and entirely satisfactory, the pulse becoming fuller and stronger.

Case XIII.—Miss C. S., aged fifty years, aortic stenosis. Compensatory hypertrophy, originally complete; every spring, for the past six or eight years, patient has had to take heart tonics. During the three previous years, she has been under my care, and on each occasion infusion of digitalis was prescribed for the first few days, and, when the stomach rebelled, was followed by 10-drop doses of tincture of digitalis, four times daily, in capsule. Even under the latter preparation the stomach rebelled and the appetite waned, until, as was the rule, anorexia became complete. Last April Miss S. again consulted me. Digitoxin was this time prescribed,  $\frac{1}{100}$  grn., four times daily. The effect was prompt, salutary and benign, there being no gastric disturbance. To use her words, "Digitoxin marks a real advance, and is a boon."

Case XIV.—Mrs. J. S., aged forty-two years. Diagnosis, typhoid fever. During the first week of the disease the pulse was 110, and dicrotic. Digitoxin had a remarkable effect in this case, not only sustaining the pulse, but, when the patient was restless and fretful, the hypodermic injection of  $\frac{1}{100}$  grn. had a quieting influence upon the nervous system as well. In fact, the action was very similar to that of morphine as we see it in shock.

In the accounts, taken at random from the writer's records, a very fair idea may be had of the certain results obtainable with digitoxin. Until a more definite product is supplied by the various manufacturers under the generic name of digitalin, the former must continue to grow in favor and finally supplant the latter, and, as the profession becomes better acquainted with the virtue of the article, digitoxin seems destined to enjoy the widest range of usefulness and popularity.

Note.—A solution of digitoxin, we are told, is liable to precipitate on coming in contact with the secretions of the body. To avoid this, and yet not use too much alcohol in the pharmaceutical preparation of the solution, it has been recommended to add a little chloroform to the solution; several formulæ have already been worked out. The following solution has, after experimentation, been found to be stable and will not precipitate upon contact with blood serum, water, or sodium chloride solution:

Digitoxin (Merck).....	$\frac{1}{100}$ grn.
Chloroform.....	$1\frac{1}{2}$ min.
Alcohol (90 per cent.).....	23 min.
Water.....	to make 4 dr.

There were four deaths during the past year among the lepers at the Lazaretto, Tracadie, N. B., and three new admissions. There are now twenty lepers in the institution, thirteen males and seven females. Dr. Smith,<sup>1</sup> the physician in charge, states that he has noted encouraging results from his trials of chaulmoogra oil and creolin.

## THE TREATMENT OF INFANTILE COLIC<sup>1</sup>

By H. Iloway, M.D.

THE treatment of colic in infants divides itself naturally into two parts, says Dr. Iloway: The immediate relief of the infant, that is, the treatment of the attack, and the removal of the exciting causes. The number of remedies that are used for the relief of colic is very large, though they can all be divided into two classes, aromatics, carminatives, or antispasmodics, and narcotics. The alcoholic stimulants, which are so much in vogue as domestic remedies, really act like aromatics in the small doses in which they are given. The favorite prescription of old Dr. Dewee—so-called Dewee's carminative—was the following:

Calcined Magnesia.....	20	grn.
Tinct. Asafetida.....	60	drops
Tinct. Opium.....	20	drops
Water.....	1	oz.

The dose of this, for a child from two weeks to one month old, was 20 drops; 10 more drops were administered if the infant was not relieved in half an hour. For older children, the dose was proportionately increased.

Dr. Starr, of Philadelphia, prescribes in mild cases:

Sodium Bicarbonate.....	16	grn.
Syrup.....	4	dr.
Peppermint Water.....	to make	2 oz.

Teaspoonful to a child one month old.

Adding 2 drops of aromatic spirit of ammonia, or 1 drop of spirit of chloroform to each dose, makes it more efficacious. A teaspoonful of sweetened warm water, with 10 drops of gin in it, is also very efficacious in mild cases. For severe cases Dr. Starr prescribes the following:

Potassium Bromide.....	16	grn.
Chloral Hydrate.....	8	grn.
Syrup.....	4	dr.
Peppermint Water.....	to make	2 oz.

Teaspoonful at a dose. May be repeated two or three times at intervals of half an hour if necessary.

Dr. John Thompson, of Edinburgh, treats attacks of colic by irrigating the lower bowel with a large quantity of warm water, or by giving a copious warm enema. He then applies hot fomentations to the abdomen and warm water to the feet. Twenty drops of whisky in some cases makes a useful adjunct. An aperient is generally useful. Where there is obstinate recurring colic, he gives small doses of codeine,  $\frac{1}{32}$  to  $\frac{1}{24}$  grn. In the first years of his practice the author also frequently prescribed opiates, but he soon found out that children became quickly habituated to the effect of opiates, and larger and larger

<sup>1</sup> *Domin. Med. Monthly*, Feb., 1901.

<sup>1</sup> *Phila. Med. Jour.*, VII, No. 5.

doses are required to produce the desired result. He then replaced the opiates by chlorate hydrate, as in the following prescription, intended for an infant twenty-six weeks old, or over:

Chloral Hydrate.....	6 to 8 grn.
Mucilage Acacia.....	1 dr.
Milk Asafetida.....	2 dr.
Spirit Anise.....	½ dr.
Fennel Water.....	3 dr.
Aromatic Syrup Rhubarb.....	1½ d.

Teaspoonful for a dose. To be repeated in thirty minutes if necessary.

For older infants the chloral may be increased to about 12 grn.. With increasing experience, the author found that the routine prescribing of the same formula in each case is unsatisfactory, and that the simple antispasmodics acted as efficiently and quickly—in fact, even more so—than the hypnotics and narcotics. Of all the antispasmodics the milk of asafetida (*Emulsum Asafetidae*, U. S. P.), if properly prepared from the tears (not the powder!) has proved the most satisfactory. In a few minutes after it is given there is an abundant discharge of flatus, or eructations ensue and the child is relieved. Of this milk, ⅓ to ½ teaspoonful is given to the youngest infant, followed in fifteen to twenty minutes, if necessary (but this very rarely happens), by a second dose. The author says that ninety-five out of every one hundred infants take the asafetida milk readily, and there is, therefore, no struggling. Sometimes the author prescribes the asafetida in the following combination:

Milk Asafetida.....	4 dr.
Syrup Manna.....	2½ dr.
Spirit Anise.....	½ dr.
Aromatic Syrup Rhubarb.....	1 dr.

The author emphasizes the fact that asafetida is a most excellent remedy, not only for infantile colic, but for colic in adults as well, and in illustration he cites the history of a striking case, in which, prior to the use of asafetida, all remedies failed to give relief.

Where the colic can be traced directly to overfeeding, indigestion, constipation, or improper food, the suffering is quickly relieved by a mixture of the following composition:

Mixt. Rhubarb and Soda.....	4 dr.
Hoffmann's Anodyne.....	40 drops
Arom. Syrup Rhubarb, to make	1 oz.

Dose, for infants up to three weeks old, 15 to 20 drops; for those three or four weeks old, ½ teaspoonful, repeated in half an hour if necessary; for older infants, ⅓ to 1 teaspoonful.

If there has been much overloading, an enema or a soap suppository, in addition to the above, will be very useful.

Where the colic is due to a cold, we must

apply dry heat to the abdomen, such as a couple of layers of flannel, well warmed, or a tin plate, heated and covered with cloths, so as not to burn; the feet must be wrapped in a warm cloth, and a warm, sweetened decoction of fennel seed is to be given internally. These measures give prompt relief. A few drops of good whiskey, brandy or gin, in sweetened warm water, will sometimes accomplish the same purpose. In the way of prophylaxis, we must attend to the digestion of the infant (for which purpose a few drops of wine of pepsin, or papain, 1 grn., with sodium bicarbonate, 3 grn., given for a long period, will prove useful); if he is usually costive or constipated, it should be overcome; the mother's diet and digestion must be attended to, and care taken to avoid any over- or under-feeding.

#### THE HEMOSTATIC VALUE OF GELATIN

In a thesis recently presented before the University of Bordeaux, Dr. A. Castaing<sup>1</sup> presents the value of gelatin as a hemostatic in various kinds of hemorrhages. He used a 2-per-cent. solution of gelatin in artificial serum (normal saline solution), of which he injected 5 to 60 Cc. (75 min. to 2 oz.), according to the severity of the hemorrhage. A single injection is frequently sufficient to bring a secondary hemorrhage to a standstill. In 27 cases of hemoptysis the hemorrhage stopped in 20 (74 per cent.) after one single injection; in 3 cases the injection had to be repeated once, in 1 case three injections had to be made, and in another case six; while in 2 cases the treatment had no effect, probably, as the author says, because the dose employed was too small in comparison with the extent of the hemorrhage. At any rate, the results obtained so far justify the conclusion that gelatin injections are of great value in hemoptysis, especially of tuberculous origin.

In several cases of hematemesia and intestinal hemorrhage the gelatin injections proved fully successful, after ergotin and ice failed completely. The author also tried the injections in 5 cases of bleeding hemorrhoids, and the hemorrhage stopped after suppositories, ergotin, hamamelis, and other hemostatics proved valueless. The same good results were obtained in metrorrhagia due to fibroma, polyps, carcinoma, and metritis. Finally, the author recommends a trial of gelatin in hemorrhages of infectious origin.

<sup>1</sup> *Klin.-therap. Woch.*, VII, No. 5.

# Progress in Materia Medica and Drug Therapy

## SODIUM SUCCINATE IN JAUNDICE

Dr. Charles F. Hope<sup>1</sup> says that in the treatment of catarrhal jaundice we must remember that it is not a separate disease, but a symptom only. We, therefore, must address ourselves either to the subacute inflammation of the stomach and duodenum or to the cholelithiasis. The diet is important. Fats, starches, sweets, pastries and highly-seasoned dishes should be reduced to a minimum; lean meats, fruits, milk in moderate amount, buttermilk, lemonade, etc., are to be recommended. Water should be partaken of in abundance, especially the alkaline and saline waters, like Carlsbad, Hunyadi, Apenta or Congress. The bowels should be kept gently open with calomel, taken every other day;  $\frac{1}{10}$  grn., with 1 grn. of sodium bicarbonate, taken every hour until a laxative effect is produced, is the best form of administration. Sodium phosphate as a remedy for catarrhal jaundice has often failed to yield any results in the author's hands. He has also tried a number of other remedies, but the one that has given him most excellent results, and which he recommends in the highest terms, is sodium succinate, which has also been warmly advocated by Dr. Waugh. The author gives the succinate in 5-grn. doses, repeated every three hours; the vehicle is water containing some aromatic flavoring.

## TRACHEAL INJECTIONS IN TUBERCULOSIS

Dr. T. M. Murray<sup>2</sup> thinks in tracheal injections we have a valuable adjunct in the treatment of phthisis. Modestoff, of St. Petersburg, demonstrated, after numerous experiments on dogs, that remedies injected into the trachea penetrated to the furthest limits of the respiratory space. Downil, of Glasgow, obtained excellent results from a mixture of menthol, 12 per cent., creosote, 2 per cent., and cod-liver oil, of which as much as 2 drams was injected at a sitting, daily.

Out of forty cases so treated every one was benefited in several ways. For a period of four to eight hours after the injection there is no cough at all, and if given at bedtime the whole night may be passed restfully without a single cough. The expectoration is greatly reduced in quantity, and much less offensive in character. There is also increase in weight, etc. Instead of the menthol and creosote mixture, the au-

thor has adopted, in his practice, Mundell's solution, which is composed as follows:

Oil Thyme.....	} of each, 80 min.
Oil Eucalyptus.....	
Oil Cinnamon.....	
Sterilized Olive Oil.....	3 1/4 fl. oz.

Of this about 45 min. are injected three or four times in succession.

Of thirteen cases treated by the author with this solution all but three have been decidedly benefited, the cough and expectoration being lessened and the temperature reduced.

The method of administering intratracheal injections is simple. The curved canula of the syringe is passed between the vocal cords, and the fluid is slowly injected into the trachea. The usual effect, in the majority of cases, is a slight explosive cough; the author has not seen a single case of glottic spasm follow even the first injection.

## POISONING BY CHROMIC ACID LOCALLY APPLIED

Dr. John W. Shaw<sup>1</sup> reports the case of a young woman, who had a mass of vegetation covering the vulva and extending upward towards the pubes and downward to the anus. The vegetation had been treated by various methods, but constantly recurred. The author decided to cauterize it deeply with chromic acid. A solution of the acid, 100 grn. to the ounce, was applied, and rather less than 1/2 oz. of this solution—about 50 grn. of the acid—was used up. After coming from under the anesthetic, the patient complained of great pain in the vulva; about six hours later the author was called to see her, and found her with a very rapid pulse, nausea, and great thirst. He ascribed this condition to the ether, but when called to see the patient early the next morning, he found her condition alarming. She was very restless, and frequently called for water, which was immediately vomited; face pale, extremities cold, skin covered with profuse perspiration, and expressed fear of approaching death. Remained conscious.

The author then saw that he had to deal with a case of chromic-acid poisoning, and used very active stimulating treatment. The dressings were removed, and the vagina douched, for fear some of the acid solution might have entered in spite of care, but the mucous membranes showed no evidence of this.

The patient remained in this extreme condition for about thirty-six hours, after

<sup>1</sup> *Med. Council*, Feb., 1901.

<sup>2</sup> *N. Y. Med. Jour.*, Feb. 9, 1901.

<sup>1</sup> *Virginia Med. Semi-Monthly*, v, No. 21.

which she gradually returned to her normal state; and, after two weeks, was able to leave her room.

A few years ago Dr. J. Wm. White, of Philadelphia, reported a case similar to this one, but with more disastrous results. His patient was a healthy girl. Twenty-seven hours from the time of the application of the acid she died of chromic-acid poisoning. He used the same strength solution, 100 grn. to the ounce.

Dr. John Marshall made a chemical analysis and reported that the kidney tissue and liver tissue both contained chromium, most likely as sodium chromate—a substance known to be poisonous in doses of from 1 to 3 grn.

#### TREATMENT OF ATROPHIC RHINITIS

Prof. Beaman Douglass<sup>1</sup> states that the complete removal of the scabs and the cleaning of the nares and pharynx constitute an important part in the symptomatic treatment of this disease. Patients should be made to understand that the physician should see them every two days, or, better, daily; that all scabs can only be removed by cotton dipped in some solution and carefully applied to loosen. Every nook, furrow, and fold must be carefully searched. Patients realize only too well that the douche does not remove these scabs. The best results are obtained from the use of an antiseptic and deodorizing solution, applied twice daily, followed by the medicament chosen, and on alternate days these cases should be carefully cleansed at the physician's office. A spray of hydrogen peroxide (1 to 10, or 1 to 20) seems to soften and loosen scabs well, and is both an antiseptic and deodorizer. After complete spraying, wait a couple of minutes, and then wash out with warm, normal saline solution, used in either the nasal syringe or douche-bag. This spraying and douching can be repeated until a quart of water has been used. When the odor is very offensive, a solution of mercury bichloride (1 to 10,000) may be used with the saline solution. The use of trichloroacetic acid (1 per cent. solution for home use and 2 to 5 per cent. solution for office use) sometimes acts favorably, but according to Douglass it is less satisfactory on the whole than other methods. With citric acid the author has had no experience.

Ichthyol is a drug which gives the greatest relief. Nearly all laryngologists agree that it is the most valuable remedy for the

relief of the disagreeable symptoms, and the best stimulant for the mucous membrane. Douglass employs ichthyol in three ways: First, by means of a 10 to 20 per cent. aqueous solution applied on a large pledget of cotton and introduced into the nares upon the atrophied areas. As soon as the nares have been cleansed the pledgets are introduced and the patient allowed to wait for fifteen to thirty minutes, after which the pledgets are removed, and the oily sprays are used to conclude the treatment. When there is ulceration, or persistent flow of pus, ichthyol in full strength may be rubbed directly into the parts. Ichthyol on cotton, wound on a probe, is gently rubbed for four or five minutes into the atrophied mucous membrane.

The third method of using ichthyol is by means of a salve:

Ichthyol.....	40 grn.
Menthol.....	5 grn.
Petrolatum.....	1 oz.

To be used after cleansing the nostrils, and at bedtime.

The patient is directed to insert a piece as large as a bean, and then to snuff it back. When the odor is intolerable, as arises from necrotic bone, orthochlorphenol in solution with glycerin, of the strength of 10 to 25 per cent., seems to work well. In 10 per cent. solution it is a strong stimulant. In solutions of 25 per cent. it is a decided cauterant, the great objection to its use being the odor of phenol which it possesses. It must be used with caution.

#### SOME POINTS ON THE USE OF COCAINE

Dr. Wyatt Wingrave<sup>1</sup> has been experimenting with various vehicles for cocaine, in order to obtain the maximum effect from the smallest quantity of drug. He found that a 2 per cent. solution of *alkaloidal* cocaine, in equal parts of almond and petroleum oils, proved an efficient local anesthetic for the examination of and slight operations upon the nose and throat. Applied either by the means of an atomizer or a cotton swab, it produces a more prolonged anesthesia than a watery solution, though it takes longer before the anesthesia becomes established. He further found that an aqueous solution of cocaine hydrochlorate, 5 per cent., and sodium sulphate, 2 per cent., produced anesthesia more rapidly than cocaine alone, while the degree of anesthesia was equal to that obtained only by much stronger solutions of cocaine, when the latter substance is used alone. It is thus seen that not only is economy practised in the use of the expensive cocaine,

<sup>1</sup> *Phil. Med. Jour.*, vi, p. 749.

<sup>1</sup> *Lancet*, Dec. 8, 1900, p. 1679.



but the risk of constitutional symptoms is minimized. The sodium sulphate was selected partly on account of its penetrating power and partly owing to its solvent action upon the globulins and other proteids which occur in the secretions.

#### IMPORTANT POINTS IN THE TREATMENT OF CONSUMPTION

Prophylactically, it is important, says Dr. Ch. R. Upson<sup>1</sup> that the patient should occupy a good-sized, well-lighted room, with a southern exposure, containing no carpets, draperies or upholstered furniture. The floor should be frequently cleaned with a mop, moistened with a 5-per-cent. solution of formaldehyde, and the furniture wiped with cloths dampened with the same solution. For the sputa, a covered cup, containing a small quantity of formaldehyde, should be used; where patient cannot conveniently use the cup, he should use small pieces of cloth, which should afterwards be sprinkled with a formaldehyde solution and placed in a covered vessel until they can be burned.

Under medicinal treatment, the author advises a weekly dose of calomel and soda, at 9 P.M., followed in the morning by a saline. This cleanses the intestinal canal, is usually well-borne, and is, in some cases, followed by a reduction of the afternoon temperature. For intestinal indigestion, creosote combined with hydrastis and some simple bitter are useful; and as a tonic-alterative there is nothing better than a combination of strychnine arsenate, arsenic iodide, caffeine and calcium sulphide. In loss of appetite, orexine will frequently do good, even after other remedies have failed. Cough mixtures are to be avoided, unless urgently indicated. Hemoptysis is best treated by rest in a reclining position, and hypodermic injections of atropine and morphine. If the hemorrhage is severe, bandages are to be applied to the extremities. Liquids, if used at all, should be given cold, in small quantities. To increase the coagulability of the blood, calcium chloride may be used with good results. For the night-sweats, intestinal antiseptics and small doses of atropine should be used. In diarrhea, copper arsenate or zinc sulphocarbonate will prove effectual. If constipation exists, the aromatic elixir of cascara sagrada should be given, in small doses, half an hour before meals.

Intrapulmonary medication, by means of sprays, etc., has proved very beneficial in the author's hands; he prescribes for this

purpose a mixture consisting of eucalyptol, menthol, pine-needle oil, and formaldehyde. In the matter of general hygiene, it is essential that the patient should have an abundance of fresh air day and night, and good nourishing food. If his temperature does not exceed 99.5° F., he should take some gentle exercise in the open air; if the temperature is above that point, rest, either out-of-doors or in a well-ventilated room, should be insisted upon. He should take systematic respiratory exercise and should be given a daily sponging with cold or tepid water, followed by vigorous friction with a coarse towel, after which from ½ to 1 oz. of lard is to be rubbed well into the skin.

#### DOWN WITH LINEN<sup>1</sup>

The above is the title of an article by Prof. Unna, in which he shows that linen makes a very poor application in skin diseases, as it absorbs all the ointment and the effect of the latter is, therefore, almost nil. After applying an ointment to any skin surface it is best to cover it with a layer of cotton, preferably non-absorbent; still better is it to cover the salve with some impermeable material, like gutta-percha tissue. In hyperemic, edematous or uticular conditions of the skin, linen has a cooling effect, the author states, and that is the reason of its popularity with the public in general.

#### APPLICATION IN CONJUNCTIVITIS

A correspondent in a contemporary<sup>2</sup> writes that the applications usually recommended in acute conjunctivitis—namely, a 1 to 10,000 bichloride solution, or a saturated solution of boric acid—are not sufficiently soothing. The application that has given him excellent results is a strong infusion of slippery-elm bark, with enough boric acid added to make a saturated solution. In a case of non-specific ophthalmia, in a week-old infant, all other remedies failed, but this application effected a cure sooner than he hoped.

#### STRYCHNINE IN INEBRIETY

Dr. Geo. De Nike<sup>3</sup> writes that during the past eight years he has treated about 2200 cases of alcoholism. He tried pilocarpine, eserine and general tonics, but he became convinced that there is nothing that gives results equal to strychnine. The dosage is very important. In his early experience the author noticed that one patient would gain in weight and another would lose flesh; one

<sup>1</sup> *Deut. med. Woch.*, 1901, No. 4.

<sup>2</sup> *Med. World*, XIX, No. 2.

<sup>3</sup> *Med. World*, 1901, p. 61.

<sup>1</sup> *Med. Record*, Jan. 19, 1901.



patient will do well on  $\frac{1}{34}$  grn., four times daily; another will get worse on so small a dose as  $\frac{1}{60}$  grn. The most important thing is, therefore, to study each case individually; the proper dose for each patient can usually be found out in about two days. For the past six years the author has not had a patient who has not gained from 5 to 20 pounds in from three to four weeks, and he makes the statement that *any* case of inebriety can be cured with strychnine, if *properly* administered. If a patient does not improve while taking strychnine there is something wrong—either too much is given, or not enough.

#### ALCOHOL PENCILS

Dr. P. G. Unna<sup>1</sup> has prepared alcohol in the form of pencils, for the treatment of superficial impetigo and other skin affections. The formula for the pencils is as follows:

Sodium Stearate.....	6 Gm.
Glycerin.....	25 Gm.
Alcohol.....	100 Gm.

The glycerin is added to prevent brittleness.

In syccosis with small pustules, in pustular acne, and in pustular rosacea the pencils are very useful and convenient. The patient, who carries the pencil with him, wrapped up in tinfoil, is instructed to rub it over the papules and pustules as frequently as possible; he can thus obtain the parasitocidal effect of the alcohol with the least trouble.

#### IODIPIN AS AN INDICATOR OF THE MOTOR POWER OF THE STOMACH

Dr. S. Heichelheim<sup>2</sup> states that after many trials he is convinced that in iodipin we have a valuable aid in the diagnosis of gastric motility, especially useful in all cases where syphoning of the stomach is not feasible. The results obtained by iodipin, while not absolutely exact, give a general idea of the condition of the motor power of the stomach, and in conjunction with other factors in the case one may by this means reach fairly definite conclusions. The only interfering condition so far observed is jaundice, which seems to give the same result as a weakened gastric motility does.

In stenosis of the pylorus and in gastric dilatation, with motor insufficiency, the reaction was practically always delayed beyond one hour, while this was not the case in other affections (in normal condition the reaction makes its appearance in fifteen to

thirty minutes). The test consists in the administration of about 24 minims of iodipin, in gelatin capsules, and testing the saliva every quarter of an hour for the presence of iodine. The test applied by the author is based on the reaction which takes place between iodine and starch papers saturated with a solution of ammonium persulphate. The test papers must be kept in the dark.

#### ACETANILID EXTERNALLY IN OBSTETRICS

Mme. Prokopiëff,<sup>1</sup> becoming convinced from personal bacteriological experiments of the high value of acetanilid as an antiseptic, has been using it since 1894 in all injuries occurring in the course of labor. In the 3,000 cases in which she used it, it always caused rapid healing of the wound without suppuration. In 150 cases in which she had to perform perineorrhaphy, she covered the stitched edges with finely powdered acetanilid, and in all the wound remained dry and healed by first intention, though in a number of cases there existed a purulent discharge from the internal genitals. Besides its undoubted antiseptic effect, acetanilid also exerts a distinct analgesic action, which is particularly noticeable in the painful tears in the region of the clitoris, the urethra, and the vulva. If we take into consideration, says the author, the superior bactericidal property of acetanilid over that of iodoform, its lesser toxicity, and its absence of odor, the former constitutes an admirable substitute for the latter. An acetanilid gauze is also very valuable.

#### TREATMENT OF LUPUS WITH PERMANGANATE

Dr. L. Butte<sup>2</sup> recommends the following method of treatment as very efficacious: The entire locality affected with lupus is carefully washed either with ichthyol soap or with the following antiseptic emulsion:

Corrosive Sublimate.....	5 grn.
Tincture Benzoin.....	75 min.
Tincture Soap.....	1½ oz.
Distilled Water.....	7 oz.

After applying this, follow with a compress saturated with a warm 2-per-cent. solution of potassium permanganate, to be kept on for twelve to fifteen minutes. This treatment is repeated every day. In about ten days the tubercles are covered with a blackish coating and are much flatter; in fact, they no longer give to the touch the sense of elevation, but are atrophied, and what is left of them is of a soft consistence. The other portions of the affected skin are

<sup>1</sup> *Monat. pract. Dermat.*, XXXI, No. 11.

<sup>2</sup> *Zeit. für klin. Med.*, XLI, No. 5.

<sup>1</sup> *Vratch*, XXI, No. 14.

<sup>2</sup> *An. de Therap. Dermat. et Syphiligraph.*, 1901, No. 1.

smoother and softer, and there are seen signs of commencing cicatrization. After the first ten days, the treatment is to be applied only every other day, but must be continued for a period of two to three months. At the end of this period no more tubercles are to be seen, and the skin presents a smooth appearance; though it is red and cicatricial in character, the process seems to be arrested. Should any new tubercles reappear, a few applications of permanganate causes them to disappear. Of sixteen cases treated, only one required a full year's treatment. In the rest the above-described results were obtained in from two to three months.

#### TREATMENT OF MORPHINISM

Dr. Paul Cook<sup>1</sup> reports the following case: A woman, aged forty-one, had been using morphine, hypodermically, for about ten years. She became emaciated and jaundiced, and was compelled to have a nurse to attend to her constantly. The liver was about twice the normal size; the urine was scant, high-colored, and contained both bile and albumen. She had tonic spasms almost daily, which would last sometimes as long as forty minutes, the patient being so rigid that it would be impossible to flex her limbs at all. Shortly after becoming addicted to the morphine habit she had ceased to menstruate. After trying many doctors, the author was called in, and he gave the following treatment: Four minims of Fowler's solution in a dram of tincture of gentian, after meals; strychnine nitrate in  $\frac{1}{30}$  grn. doses, three times a day; melachol (which is a concentrated solution of sodium phosphate, each fluid dram of which represents 85 grn. of the chemical), 1 oz., before breakfast, in a tumbler of hot water; and gold and sodium chloride,  $\frac{1}{8}$ -grn. doses, in a teaspoonful of tincture of *avena sativa*, every three hours. The morphine was not discontinued at once, but gradually, as follows: The patient claimed she had been taking 50 grn. of morphine per day, hypodermically; the author gave her 30 grn. the first day, by mouth, but was compelled to give 5 grn. more at night; the second day she was given 15 grn.; the third, 5; the fourth, 2; the fifth,  $\frac{1}{2}$  grn., with an additional grn. at night. She was also given sodium bromide during this time. The general treatment was gradually reduced to gold and sodium chloride, three times a day, melachol before meals, and sodium bromide, 10 to 20 grn. at night.

At no time after the first day did the patient crave for morphine; she only complained of nervousness, and that was easily controlled by sodium bromide. The first few days she was extremely weak, but she slept well and took plenty of food. At the end of a month of treatment the patient had gained much flesh and strength, the jaundice was gone, and the skin and conjunctiva became quite clear. Two months later her menses returned, she seemed healthy, and her weight, which at the beginning of the treatment was 86 pounds, had increased to 138 pounds. Her liver was still considerably enlarged, but seemed to cause her no inconvenience. A year later, when seen by the author, she was in good health.

The author has treated about 20 cases of morphinomania, 19 of them successfully; some he treated with and some without melachol, but he now considers the latter an essential ingredient in the successful treatment of the morphine habit, on account of its stimulating effect on the glandular system.

#### LYSOFORM

Lysoform, which is a combination of lysol and formaldehyde, of a thin soapy consistence, and soluble in water and in alcohol, has been used by Dr. Simons<sup>1</sup> as an injection in affections of the genito-urinary organs. As a vaginal injection he used a 1 to 2-per-cent. solution; in cystitis he injected into the bladder  $2\frac{1}{2}$  to 8 dr. of a 2-per-cent. solution, and the effect has been remarkably good, even in the most rebellious cases; two to three injections often sufficed to bring about a complete cure. In chronic gonorrhea he recommends injections of a 1-per-cent. solution.

#### TREATMENT OF ACUTE ANTERIOR EPIGLOTTITIS

Angina epiglottidea anterior is an inflammation of the anterior surface of the epiglottis, as a rule confined to it, accompanied by more or less edema. According to Dr. C. F. Theisen<sup>2</sup> it occurs quite often as a primary affection and is a separate and distinct condition. The author considers the etiology, pathology, and differential diagnosis of this disease, and reports three cases in detail, with an outline of the treatment.

Case I was a man of thirty-six, who had been perfectly well up to time of the attack. When seen by the writer, the patient was sitting in a chair, with an anxious countenance, and presented the appearance of being quite ill. He complained of a very severe sharp sticking pain about the base of the tongue when he attempted to swallow. At-

<sup>1</sup> *St. Louis Clinique*, Jan., 1901.

<sup>1</sup> *Allg. Med. Central-Zig.*, 1900, No. 66.

<sup>2</sup> *Four. Amer. Med. Assoc.*, XXXIV, p. 168.

tempts to swallow even a few drops of water brought on severe attacks of choking and coughing; there was pain on attempting to move the tongue; severe headache, restlessness, no appetite; voice was clear and there was no particular difficulty in breathing. The nose, nasopharynx, and pharynx presented a normal appearance. The pharyngeal mucous membrane was not reddened. When the larynx was examined, however, the cause of the trouble was at once apparent. The anterior surface of the epiglottis was intensely inflamed, of a uniform bright-red color, and edematous. The larynx itself was not involved. Temperature,  $101^{\circ}$  F.; pulse, 110. The patient was given an iced ichthyl spray,  $\frac{1}{2}$  per cent. solution, which was used every twenty minutes, and an ice pack was applied around the neck. Cracked ice was also frequently dissolved on the tongue. The next day his condition had considerably improved, although there was still pain and difficulty in swallowing. The inflammation of the anterior surface of epiglottis had subsided considerably and he felt better generally. The iced ichthyl spray was continued at half-hour intervals during the day, and was used at longer intervals as the acute inflammation subsided. On the fifth day he was practically well.

Case II was a lady, aged forty. Attack came on very suddenly, patient being in the best general health. She had not been exposed in any way and had not had a cold. Did not have a sore throat or even coryza before attack came on. Night before had been very restless and feverish, with headache, and great pain and choking when she attempted to swallow. She had also experienced much difficulty in breathing when lying down, and had to sit up in bed. On examination, nose and nasopharynx were normal and there was no evidence of any pharyngeal trouble. Mucous membrane of posterior wall, tonsils, and faucial pillars was not reddened. Anterior surface of epiglottis was much reddened and so edematous that the laryngeal entrance was partly closed. Vocal cords were very slightly reddened and there was some swelling of the left aryepiglottic fold. Temperature,  $102^{\circ}$  F.; pulse, 120. Calomel was given, and an iced ichthyl spray,  $\frac{1}{2}$  per cent. solution, was used every twenty minutes, with an ice-pack around the neck. Patient was also told to dissolve ice on the tongue frequently. Later in the day, as breathing was not much easier, the author scarified freely, which gave her some relief. Next day patient was somewhat better and had not suffered as much during the night. Temperature,  $101.5^{\circ}$ . Epiglottis much less edematous and not as red. The iced ichthyl spray was continued—every half-hour during the day—and at longer intervals for several succeeding days. She had been able to take absolutely no nourishment the first two days, but on the third could take some milk, as the difficulty in swallowing was much less. Epiglottis still very red, but edema both of that and left aryepiglottic fold had practically subsided. Temperature,  $101^{\circ}$  F., third day. Her condition improved from day to day and in a week she was feeling almost as well as ever, although the epiglottis did not get back to the normal condition for several days more.

Case III. was a man of fifty-nine, who up to the day of the attack seemed perfectly well, except for some slight pain in the back of the head. This became worse, and late in the night seemed to be more in the throat—left side. Tongue appeared to patient to be swollen and hard, and could be only slightly protruded. The jaws could not be fully separated and there was a marked sensation of choking, although at this time patient

was able to swallow. Absolutely nothing abnormal was seen by ordinary pharyngeal examination. Next day throat more sore. Speech natural and voice clear. Tongue could not be well protruded. Temperature,  $102^{\circ}$ ; pulse, 96.

On the following day the author was sent for. Patient's condition quite serious. Had been unable to sleep the night before and complained of severe pain around base of tongue. He could swallow absolutely nothing, as even the attempt to swallow a few drops of water brought on the most violent paroxysms of choking and coughing. Temperature,  $102^{\circ}$ . On inspection of the throat, the nasopharynx and pharynx were found to be absolutely normal. There was not the slightest evidence of inflammation. When laryngoscope was used, however, the epiglottis was seen to be enormously swollen and of a uniform redness. An iced ichthyl spray,  $\frac{1}{2}$  per cent. solution, was used every twenty minutes, and an ice-pack round the neck. Calomel and salines had also been administered. The next day patient not much better. Pain in throat somewhat better, but could still not swallow anything. Epiglottis was scarified, some of the serous effusion from the deeper tissues obtained, and four cultures taken. The iced spray was continued at longer intervals. His condition improved from day to day and a week after the onset of the attack the epiglottis was no longer edematous, but still reddened and slightly thickened. The cervical lymphatic glands on both sides of the neck as well as the submaxillary glands had become swollen quite suddenly, and were tender to the touch. He made a good recovery, but had rather a slow convalescence.

In conclusion, the author says that he thoroughly agrees with Meyjes in regard to the value of an iced ichthyl spray, as it certainly relieves the acute pain and reduces the inflammation very promptly.

#### TREATMENT OF ENTERITIS WITH XEROFORM

Dr. Giovanni Petrucci,<sup>1</sup> of the University Clinic of Parma, has treated about forty cases, mostly of acute catarrhal enteritis, with xeroform alone. The dosage was 5 to 7 grn., in wafers, for adults, and  $1\frac{1}{2}$  to 4 grn., in emulsion with gum arabic, for children, at intervals of about three hours. The remedy was always well borne, even by individuals who were greatly weakened by age or disease. There were no noticeable by-effects. In two cases only there was a very slight and transitory nausea, immediately after administration of the drug; the feces became dark brown. The histories of a number of cases are given, several among them very severe, and in all of them a cure was effected in one to three days. Basing himself on the results obtained in his cases, the author says that we are justified in considering xeroform an excellent remedy in the treatment of cases of acute enteritis. The complete tolerance of the remedy, its absolute innocuousness, and its prompt action are apparent. Attacking the cause of the diarrhea, it rapidly relieves

<sup>1</sup> *Rend. del l'Assoc. Med.-Chir. di Parma*, 1900, No. 8.

its symptoms, meteorism, colic, etc., so that special remedies for that purpose are unnecessary. In acute cases, where its bactericidal action is more especially marked, it acts more rapidly than in chronic ones. In the chronic forms the infective symptoms are less marked, and the astringent effects of the remedy upon the inflamed mucosa are more slowly apparent.

#### CHRONIC CATARRHAL CONJUNCTIVITIS

Dr. Guttman<sup>1</sup> recommends in this trouble the instillation of the following solution: Zinc sulphate, 8 grn.; corrosive sublimate,  $\frac{1}{2}$  grn.; distilled water, 12 drams. In rebellious cases the lids should be touched once a day with crystallized alum; if this causes too much smarting, it may be preceded by the instillation of a few drops of a 2-per-cent. solution of cocaine. Should the case be very old, the lids, both upper and lower, must be painted with a 2-per-cent. solution of zinc sulphate, with subsequent washing. In cases of marked hyperemia, eye douches are useful. The water should have a temperature of about 70° F.; and a little eau de cologne added makes it more effective. The stream is directed on the closed lids two or three times a day, for several minutes each time.

#### TREATMENT OF PULMONARY TUBERCULOSIS IN CHILDREN WITH THIOCOL

In a thesis presented to the medical faculty of the University of Paris, Dr. Helen Kaplansky<sup>2</sup> reviews the entire literature of thiocol in a comprehensive manner, and then gives her own experience with the drug, in a number of cases which she observed in L'Hôpital Trousseau. The clinical histories in detail:

Case I.—A girl of eleven years, who had night-sweats and a severe and obstinate cough, together with abundant expectoration, which showed the presence of tubercle bacilli. She also had attacks of vomiting, abdominal pains, and borborygmi in the right iliac fossa. Physical examination revealed dullness in the left apex posteriorly, subcrepitant râles in the entire left lung anteriorly, and blowing respiration in the middle portion of the right lung. Treatment with thiocol was instituted, the dose ranging from 24 to 32 grn. per day. Improvement was immediate. In a few days the night-sweats ceased, the cough became milder, the expectoration less profuse, and digestion and appetite much nearer normal. Gradually the physical signs began to improve, and in two months the condition was almost normal, and the patient had gained 12 pounds in weight.

Case II.—A boy of four years, who, for ten weeks, had been suffering with an obstinate cough, abundant expectoration, and profuse night-sweats. Anorexia was absolute, nothing could be

retained on the stomach, and the bowels were constipated. The evening temperature at times rose as high as 104° F. The child was, of course, thin, pale, and puny. Physical examination revealed dullness at the right side anteriorly, and rude respiration, the expiration being prolonged. Thiocol was administered in doses of 8 grn. per day. The appetite and digestion improved at once; the temperature fell from 104° to 100.4° F.; the cough diminished, and there was a marked amelioration in the general condition. In about four weeks the temperature became normal and the cough disappeared entirely.

Case III.—A boy of four, whose mother died of tuberculosis; a sister of his was also tuberculous. Following an attack of measles the child began to fail perceptibly; he coughed and expectorated much, and had profuse night-sweats. Temperature 101.5° F. Rude blowing respiration at both apices, sibilant râles in both lungs, almost absolute anorexia. There was also a purulent discharge from both ears. Treatment with thiocol was instituted, 8 grn. per day being given. In a week improvement could be noted in the cough, appetite, and temperature. The treatment, continued for another two weeks, brought about a complete disappearance of the cough, fever, anorexia, night-sweats, etc., and there was a most marked improvement in the physical signs. He left the hospital cured, having gained 3 pounds in three weeks.

Case IV.—A boy of fourteen. Parents and grandfather died of tuberculosis. For the past six months he had been suffering with a very obstinate cough, abundant expectoration, profuse night-sweats, and loss of flesh. Five months ago he had had quite a profuse pulmonary hemorrhage. Evening temperature, 102.2° F. Treatment with thiocol proved very satisfactory, there being an improvement in all his symptoms; an intercurrent attack of typhoid fever, however, necessitated the suspension of the treatment.

Case V.—A boy of thirteen, whose father died of tuberculosis, and whose mother was also tubercular. Thiocol did not prevent the progressive advance of the disease, but had a good effect on the cough and expectoration.

Case VI.—A girl of six, who at three years of age had had rickets, and at five years measles and whooping-cough. For the past three months she had had abdominal pains and frequent attacks of epistaxis, and for the past two weeks she had also suffered with severe cough, choking feeling, night-sweats, and loss of appetite. There was coarse respiration with sibilant râles at both apices. Temperature, 100.4° F. Treatment with thiocol for a period of three months brought about the disappearance of all subjective symptoms, the physical signs became practically normal, and there was also a most satisfactory increase in body-weight.

Case VII.—One of tubercular peritonitis. Thiocol had no influence on the abdominal condition, but produced a good effect on the general status of the child.

The author also mentions the fact that in Dr. Akimoff-Peretz's hands thiocol proved successful in several cases of tubercular peritonitis. In three cases of very advanced tuberculosis the thiocol proved ineffective, but neither did the best hygienic conditions have any influence.

The author states that the extensive experience of numerous competent investiga-

<sup>1</sup> *Rev. de Thérap. Méd.-Chir.*, 1900.

<sup>2</sup> *Domin. Med. Monthly*, Feb., 1901.

tors, as well as her own, justify the following conclusions: (1) Creosote in some form must occupy the first place in the medicinal treatment of infantile tuberculosis. (2) Among the derivatives of creosote or guaiacol, thiocol deserves the preference, and it will eventually become the remedy of choice. (3) The results of experiments on animals permit us to assume that thiocol exercises a direct antitubercular effect in the animal organism, and does not merely produce a favorable influence on the general nutrition and on certain symptoms of tuberculosis. (4) The experimental data, as well as clinical experience, justify us in giving thiocol a trial not only in *pulmonary* tuberculosis, but in other forms as well; as, for instance, in tubercular pleurisy and peritonitis. (5) The administration of thiocol in all forms of tuberculosis is the more indicated because, on account of its solubility in water, and its absence of odor and taste, it is readily taken by children, and because it is perfectly innocuous.

#### APOCODEINE AS A LAXATIVE

Several years ago Dr. Toy, of Lyon, reported his favorable results with apocodeine, both as a sedative and as a laxative; he had given it per os, or hypodermically in doses of  $\frac{1}{3}$  to 1 grn. Quite recently Professor Combemale,<sup>1</sup> of the University of Lille, has instituted extensive trials with the drug, with special reference to its value as a laxative. It was administered hypodermically to a large number of patients suffering with constipation; 30 min. of a 1-per-cent. solution of apocodeine hydrochlorate, corresponding to  $\frac{1}{3}$  grn. of the drug, was injected. In almost every case the injection caused one or more soft stools. The author therefore considers apocodeine a good laxative, which deserves special interest from the fact that the number of substances which will produce a cathartic effect when injected hypodermically is extremely limited. In none of the cases did the apocodeine produce any general by-effects. The only effect produced was some pain and redness at the point of injection, but this, the author says, is easily avoided by injecting directly into the muscles instead of under the skin.

#### PETROLEUM IN RHEUMATISM

Petroleum has from time immemorial been a favorite remedy with the people of Roumania in the treatment of acute articular rheumatism. Dr. Hector Sarafidis,<sup>2</sup>

surgeon in the Roumanian army, decided to try this product on all the acute rheumatic cases in the military hospitals, and in his private practice, to find out whether its popularity was based on a sound foundation. Fifty cases have been treated, of which twelve are described in detail, and the results have exceeded the author's expectations. The petroleum is slowly and thoroughly rubbed into the affected joint, which is also thoroughly massaged, and is then covered with a layer of cotton. One application per day, lasting ten minutes, is sufficient. The author has obtained complete cures, in all his cases, in from two to seven days, and without relapses. According to his opinion this method is superior to all others for several reasons. The three most important ones are: (1) This method does away absolutely with the necessity for any internal medication whatsoever, thus avoiding any gastric disturbances; (2) we can use it without any hesitation in acute rheumatism of nephritic patients, and also of pregnant women, in whom the salicylates are, as is well known, contraindicated; (3) it lowers the temperature without any internal antipyretic, and thus spares the heart and prevents inflammation of the serous membranes. In all the cases treated by the author he has not observed any cardiac or visceral complications. Other points of superiority of this method of treatment are that it is applicable to patients of all ages, is free from any disagreeable by-effects, and is very cheap.

#### HELIOSIN

Heliosin is a mixture of indefinite composition, consisting of various inorganic salts with keratin, and was proposed by Dr. Galande as a succedaneum for the mercurials in the treatment of syphilis. It has been used by Dr. Zakrepa<sup>1</sup> in two syphilitic cases. The results were absolutely negative.

#### DIDYMIUM SALICYLATE

For over a year Professor C. Kopp,<sup>2</sup> of Munich, has been experimenting in his surgical and dermatologic practice with a preparation called dymal, which is practically didymium salicylate. He used the dymal, which is a very fine, odorless powder, either in substance or in a 10-per-cent. wool-fat ointment. In wounds and injuries, in abscesses, and in burns of the first and second degree the dymal did good service; it proved an unirritating, siccative, antiseptic, and secretion-diminishing appli-

<sup>1</sup> *La Sem. méd.*, XX, p. 422.

<sup>2</sup> *Rev. de Thérap. Méd.-Chir.*, LXVIII, No. 3.

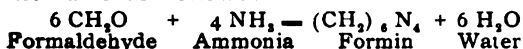
<sup>1</sup> *Vratch*, XXI, No. 17.

<sup>2</sup> *Therap. Monats.*, Feb., 1901.

cation. In burns, it does not, however, diminish the pain, according to the author, as rapidly as do compresses of a solution of ichthyol or a 5-per-cent. ichthyol ointment. In dermatologic practice in general dymal proved unsatisfactory; in the various forms of eczema, psoriasis, etc., it proved inferior to the ordinarily employed remedies. In erysipelas it proved useless. Only in hyperidrosis, in simple intertrigo, and in excoriations was its beneficial effect evident. Its cooling, drying, deodorizing, and antipruritic action makes it very valuable in those affections.

#### ANTIDOTE FOR FORMALDEHYDE

Several cases of poisoning with formaldehyde, taken by mistake, have recently been reported.<sup>1</sup> In view of the fact that the chemical is coming into more and more general use as a disinfectant and antiseptic, such cases will probably become more frequent. An easily accessible and reliable antidote is, therefore, a necessity. We possess such an antidote in ammonia water. Ammonia, combining with formaldehyde, forms the harmless non-caustic and non-toxic hexamethylene-tetramine, which is a well-known compound, and is employed therapeutically under the names formin, urotropine, etc. The equation expressing the reaction between formaldehyde and ammonia is as follows:



The ammonia may be administered either in the form of the ordinary ammonia water (a few drops well diluted), or anisated solution of ammonia, or aromatic spirit of ammonia, or solution of ammonium acetate, which latter has no caustic properties whatsoever, and is equally capable of combining with the formaldehyde to form hexamethylene-tetramine.

#### PANCREON

Pancreon is a preparation obtained by the action of tannic acid on pancreatin. It is a grayish, odorless powder, having a strong tryptolytic power, 1 Gm. of it digesting 85 Gm. of albumin (out of 100 Gm. experimented with) in fifteen minutes, at a temperature of 40° C., and in a weak alkaline medium. It has also strong amylolytic and emulsifying properties. Its superiority over pancreatin lies in the fact that it is capable of resisting the destructive action of the gastric juice for a period of five hours. As is well known, ordinary pancreatin loses the greater part, if not all of, its activity when brought in contact with the secretion

from the stomach. Dr. Gockel<sup>1</sup> has used pancreon in thirty-four cases of different gastro-intestinal affections in doses of 5 to 8 grn. three times a day. In twenty-five cases he had good results; in three the results were only partially good, and in six the remedy produced no effect at all. He thinks that pancreon is indicated in all anomalies of metabolism and digestion, whether of primary or secondary character, and whether dependent upon purely functional or organic causes.

#### THYMOTAL: A NEW VERMIFUGE

J. E. Pool,<sup>2</sup> a pharmacist of Paramaribo, Dutch Guiana, has been trying to prepare a compound of thymol which should possess all its therapeutic properties without its disagreeable by-effects. He has succeeded in obtaining a carbonate of thymol which he names thymotal. Its preparation takes place by the influence of phosgen gas on thymol sodium, leaving after purification an insipid, white, crystalline substance, the smell of which only feebly resembles that of thymol. It is a neutral substance, with a fusing point of 49° C. and a boiling point of over 400° C. An *alcoholic* solution of potassa decomposes it into thymol and carbonic acid; a similar reaction, says the author, takes place in the intestines. But a boiling *aqueous solution* of potassa does not break it up, and it is not in any way affected by acids or by the contents of the human stomach. Seven patients have so far been treated with thymotal, and all with excellent results. The physicians who used it report it to be superior to thymol for the following reasons: (1) It is without odor, and can therefore be taken by children who cannot swallow pills; (2) it is not dissolved in the stomach, as is thymol, and is not vomited, as is often the case with the latter drug; (3) it does not cause giddiness, as thymol does very shortly after it is taken; (4) the danger of thymol-poisoning is reduced, especially in those children whose bodies are weakened by ankylostoma; (5) the carbonate of thymol is broken up in the body by the influence of the bile and the mucus of the intestines, and thymol is formed exactly at the places where the ankylostoma is found in the body, *i.e.*, the duodenum and the adjacent parts of the intestines; (6) because it cures more rapidly than does thymol.

The dose for adults is 30 grn.; for children, 15 grn., and for infants, 7½ grn., three or four times daily. This treatment must be continued for four days and a purgative taken on the fifth day.

<sup>1</sup> *Therap. d. Gegenw.*, 1901, p. 86.

<sup>2</sup> *Therap. Monats.*, Feb., 1901.

<sup>3</sup> *Med. News*, LXXVIII, No. 9.

# MERCK'S ARCHIVES

## MATERIA MEDICA AND DRUG THERAPY

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MARCH, 1901.

THE regular part of the medical profession is continually assailed with the charge of being overconservative, and therefore intolerant of new ideas. This is a gross calumny. No other part of the medical profession is to-day more ready—yea, more eager and anxious—to experiment with new or old remedies, to try new methods of treatment, and to apply new or improved instruments and inventions. And it matters not to what "school" the introducer may belong or what obscure corner of the earth he may hail from, so long as his ideas have some common sense in them, so long as his suggestions have elements of plausibility, they are sure to be given a fair and impartial trial. Being tied by no dogma, bound by no self-made artificial law, bowing to no authority, the regular medical profession is free to take and call its own anything that it may consider beneficial for the cure of disease. There is not a method or a force that is not used by the regular medical profession in appropriate cases. The accusation that the regular medical practitioners are drug-doctors exclusively is particularly false. Diet, massage, gymnastics, open air, sun baths, hydrotherapy, electrotherapy, phototherapy, hypnosis, suggestion—all these and other means are brought into use in appropriate cases. But there is where the difference is: scientific physicians are not faddists. They scorn the idea that any one type of treatment is applicable to or will cure *all* disease; they seek to estimate each one at its true worth, and while recognizing its value in special cases, refuse to consider any of them a panacea. Who, then, in the name of common sense, is likely to prove of more

service to his patients—he who has all Nature, with her numerous resources and powers, to fall back upon, or he who has bound himself over to a creed and says: "By this sign shall I conquer?"

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OF course, if the new method or remedy has the word "quackery" written boldly across its face; when the claims made for it are in direct opposition to all fundamental scientific facts and even the laws of Nature; in short, when the whole thing is seen to be clearly an attempt to make money out of a suffering public, and to gain the sanction and the prestige of the medical profession in order more readily to make that money, reputable physicians of all schools fight shy of it. Not to do so would mean to fail in their duty, and would deserve for them not the epithet "tolerant," but that of "gullible"—and there is a wide gulf between tolerance and "gullibility."

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SOME physicians, seeing the ignorance of the public, its credulity, and the readiness with which it lends a willing ear to the most preposterous claims, become pessimistic as to the future of scientific medicine. Such pessimism is entirely unjustified. Truth always does and always will triumph over error—in the end. Every new discovery made, be it in the science of chemistry, physics, physiology, or pathology, etc., weakens the ammunition and the prestige of the impostors. Says a writer in an article relative to the foregoing:

"Quackery has done and is doing great harm to our race, but it can never be driven from the earth except by exact knowledge. Until medicine has become an exact science in all its departments we may not expect its disappearance. Each great medical discovery, like that of the value of vaccination for the prevention of smallpox, the power of causing freedom from pain during child-bearing and surgical operations by the inhalation of sulphuric ether, and the discovery of specific germs in the causation of disease, Röntgen rays, and the ophthalmoscope by which the interior of the eye can be seen in all its beautiful details—all of these have given charlatanry a hard blow."

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THE first number of "American Medicine"—Dr. Geo. M. Gould, editor—is promised for April 6, 1901. The new journal will be controlled by representatives of the medical profession exclusively, and the contents will be of a practical character, appealing more especially to the general practitioner.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

G. A. B. asks for a clear explanation of the Murexide Test, its rationale, and the derivation of the word "Murexide."

The murexide test is performed as follows: A small portion of the urine is evaporated almost to dryness in a porcelain capsule, a few drops of nitric acid are added, the mixture again evaporated almost to dryness, and 1 or 2 drops of ammonia water are added; the presence of uric acid or urates is indicated by a beautiful purple red color. The rationale of this test is this: When uric acid or a urate is heated with nitric acid, alloxan and then alloxanthin is formed; this latter substance combining with ammonia forms murexide, which is the ammonium salt of purpuric acid. As to the etymology of the word "murexide": it is derived from the Latin word "murex," the purple fish.

J. C. N. writes that, reading an old book, he came across a prescription calling for *Pulvis Parturiens* and *Specificum Bisulphuricum*, the combination being highly recommended for absence of labor pains and atony of the uterus, and asks whether we can inform him as to the composition of each.

*Pulvis parturiens* is an old synonym for ergot. *Specificum bisulphuricum* is a synonym for quinine bisulphate. Quinine was for a long time designated as *specificum* or *specificum absolutum*. This synonym still occasionally occurs in the prescriptions of German practitioners.

R. E. J.—When and by whom were the various glucosides of *Digitalis* first separated from the drug and used in medicine?

The French crystallized digitalin was isolated by Nativelle in 1871. It consists of a mixture of digitalin and digitoxin. The amorphous digitalin was introduced to the notice of the medical profession by Schmiedeberg in 1874. Both digitalin and digitoxin are very active preparations of digitalis, although, perhaps, neither represents all the virtues of the drug; as you say, this may account for the fact that the glucosides of digitalis are less cumulative in their action than the digitalis leaves themselves. As to the claim made by the

physician in question, that the preparation which he uses is less dangerous than digitalis, no very great weight should be attached to it. As a matter of fact, the whole question of the cumulativeness of digitalis is still under discussion; by some it has been denied altogether, as, for instance, by the late Prof. Loomis. In the present issue of the ARCHIVES there appears an abstract of a paper by Prof. Leon L. Solomon, on the glucosides of digitalis; therein the entire subject is fully and exhaustively discussed.

M. S. R.—Will you kindly give me some information in the next issue of the ARCHIVES in regard to Ferropyrine. Is it ever used internally? If so, what is the dose?

Ferropyrine, also called ferripyrrine, is a combination of ferric chloride and antipyrine. It is an orange-colored powder, soluble in water and in alcohol. It contains 64 per cent. of antipyrine, 12 per cent. of iron, and 24 per cent. of chlorine. It is used externally as a styptic, either pure or in 20 per cent. solution; as a simple astringent in gonorrhea, etc., it may be used in 1 to 3-per-cent. solutions. Internally, it is given in anemia and chlorosis, especially if complicated with migraine, in hemorrhages, etc. Dose, 5 to 15 grn., either in powder or solution.

C. A. G.—Can you refer me to any new literature or reports on Mammary Gland Extract?

So far as we know, the latest literature on the subject of mammary gland is embodied in two papers in the *Journal of the American Medical Association*—one in the issue for July 28, 1900, by Dr. John B. Shober, and another, by Dr. H. J. Boldt, in the issue of August 4, 1900.

Dr. Shober, who seems to have had the most extensive experience in the use of the gland, prescribes it in the form of tablets, each representing 20 grn. of the fresh gland; from 3 to 6 tablets are given daily. The remedy is chiefly indicated in fibroids of the uterus and in subinvolution. The author has never noticed any untoward systematic effects from the use of the gland. It exerts a positive action on the uterus, causing contraction of the uterine muscle, and thus controlling hemorrhage by diminishing the amount of blood supplied to the body of the organ. The action of the gland is very similar to that of ergot, but is far more reliable and certain, and the remedy can be used for a much longer period of time than can ergot, without causing unpleasant symptoms. In uterine fibroids the author has used the mammary gland with



great success, especially in those cases which are characterized by excessive and weakening menorrhagia and metrorrhagia. He states that the bleeding can generally be brought under control within a few weeks, and if the treatment is persisted in the menstrual periods become regular and normal, and are unaccompanied by clots and pain. The tumors themselves are inhibited in their growth and development and diminished in size, up to a certain extent.

In cases of subinvolution from any cause unassociated with malignancy or structural changes, he has used the mammary gland with marked success. In from five to six weeks the leucorrhea and irregular bleedings cease, and the backache and other reflex symptoms disappear entirely.

These are the only classes of cases in which the author advises the use of the mammary gland. It is contraindicated in cancer or dysmenorrhea of ovarian or tubal origin, or one due to malposition of the uterus, and is distinctly contraindicated in dysmenorrhea due to stenosis, and in amenorrhea.

A. S. L. asks for the composition of Neisser's Oil, and of Long's Oil, both used in syphilis.

Neisser's oil consists of mercury, 20 parts, ethereal tincture of benzoin (that is, benzoin dissolved in ether instead of in alcohol), 5 parts, and liquid vaselin, 40 parts. It is used in syphilis by hypodermic injection only. Long's oil is another name for gray oil or oleum cinereum; it was Dr. Long, of Vienna, who in 1886, introduced the gray oil to the notice of the medical profession. The detailed method for preparing it, with dose, etc., was given in the ARCHIVES for November, 1900, page 463.

A. D. writes: I have under charge a patient suffering with Locomotor Ataxia, to whom I have been giving silver nitrate for the past two years uninterruptedly. He seemed to be benefited by the treatment, but about six months ago his skin began to show distinct signs of argyria. The skin of the face is of a distinctly darker color than it used to be, and here and there a few blackish spots show. I fear that the condition may become worse. Is there any treatment by which the color and the spots produced by the argyria may be removed?

So far as we know there is no remedy which will remove or even ameliorate the condition known as argyria. The particles or molecules of metallic silver are deposited in almost the same manner as the natural skin pigment is. In aggravated conditions, in individuals especially susceptible, the entire skin may acquire a dark bronze color. The administration of silver salts should, of

course, be stopped, when the signs show themselves. Sodium iodide in small doses for periods extending over many months has been suggested and may be tried, but we are not aware that any appreciable results have ever been reported from its use.

N. O.—Kindly give some information about Agathin, which I have seen recommended for headache.

The chemical name of agathin is salicylaldehyde-methyl-phenyl-hydrazine. It is in the form of greenish-white crystals, odorless, tasteless, and insoluble in water. The dose is about 2 to 8 grn. It was at one time recommended for neuralgia, headache, and rheumatism, but we do not think that it is used at present.

L. M.—Can you give me any information regarding the use of Thiosinamine in hypertrophied tonsils and adenoid growths of the pharynx? Is there any literature on the subject? Can it be given in aqueous solution and would it keep undecomposed, say, for a week?

We have come across no reports on the use of thiosinamine in hypertrophied tonsils and adenoid growths, but can see no reason, however, why a trial of the drug in the above-named affections should not be made. Thiosinamine is soluble in water and is not readily decomposed.

C. F. R.—Mountain sickness is a feeling of nausea with irregular heart action and dyspnea, caused by the rarefied air of the high altitudes. The feeling generally passes off on descending to lower altitudes.

A. I.—Gelanthum is a peculiar ointment base, especially useful in skin diseases. It is itself soluble in water, and forms a smooth, homogeneous, non-sticky coating. It takes up 50 per cent. of ichthyol, 40 per cent. of salicylic acid, resorcin, or pyrogallol, 5 per cent. of carbolic acid, etc. Insoluble drugs, like zinc oxide or bismuth subnitrate, are kept well suspended if gelanthum is the vehicle.

W. F.—Both guaiacol carbonate and creosote carbonate are insoluble in water; the only guaiacol preparation freely soluble in water is Guaiacol Sulphonate of Potassium, or Thiocol.

C. W. D.—We can state definitely that Thiocol is capable of replacing all other preparations of guaiacol with advantage in any case where the latter may be prescribed; its solubility renders it more readily absorbable and assimilable. By

many clinicians, such as Prof. Martin Mendelsohn, Prof. De Renzi, Dr. Marcus, etc., thiocol is considered the best preparation of guaiacol known to the profession. Some investigators claim that but a very small percentage of the other guaiacol salts is dissolved in the intestinal canal, the rest passing out unchanged with the feces. Both as an intestinal antiseptic and as an antitubercular remedy, thiocol is an invaluable remedy.

A. R.—From what you write, it appears that the condition of your friend is in great part psychical, as varicocele by itself does not produce the conditions you describe. We have known a number of cases where the reading of quack literature and morbid introspection have been the causes of just such conditions as you describe. Concerning treatment, we would say that the formula you give, containing equinine and ergotin, is a good tonic. A pill consisting of arsenic, nux vomica, and phosphorus is also very useful. External inunction, with the following ointment, has proved very efficacious. It helps to absorb the exudation in a most remarkable manner:

Unguentum Hydrargyri.....	2 dr.
Ichthyol.....	2 dr.
Unguentum Belladonnæ.....	3 dr.
Unguentum Potassi Iodidii....	4 dr.

To be rubbed in well, and the parts then covered with cotton and with oiled silk or gutta-percha tissue. The whole to be supported by a well-fitting suspensory bandage. A strict diet must be instituted and alcohol in any form rigidly excluded.

P. & R.—Guaiacol-Ethyl, also known as Guæthol, occurs as an oily liquid, soluble in alcohol, ether, or chloroform, but *insoluble* in water (the U. S. D. description is wrong in this particular). It has been employed as a succedaneum for guaiacol—as a local anesthetic in neuralgia, tubercular cystitis, etc., and internally in phthisis. The usual dose is from 4 to 10 min. three times daily, in capsules, pills, or alcoholic mixtures. Externally it is applied as a paint made with an equal part of chloroform, or in 10 to 20-per-cent. ointment.

S. S.—Acoin is a local anesthetic, and is recommended as a substitute for cocaine. It is stated to be less toxic than cocaine, while the anesthesia produced by it is said to be more lasting.

A. K. N.—The preparation you inquire about is a mixture of unknown com-

position; the supposed formula, given on the label, is for the purpose of misleading and befogging the unsophisticated physician. The name of one of the ingredients, "amide-acet-phenyl," is evidently a perversion of phenyl-acetamide or acetanilid.

A. B. S.—The dose of Hemogallol is 4 to 8 grn., three or four times a day, immediately before or after meals. It is prepared from hemoglobin, by deoxidizing the latter with the aid of pyrogallol. It has never been known to disturb digestion or to produce constipation. By many investigators it is considered the best form of organic iron, being the nearest approach to the iron as it exists in the red blood-corpuscles.

C. F. G.—Eurobin is chrysarobin triacetate; recommended as a substitute for chrysarobin.

J. Z.—Hesperidin is a glucoside present in oranges, lemons, etc., especially when they are unripe. Its formula is given as  $C_{22}H_{26}O_{12}$ ; it may be obtained in the form of fine needles.

## Correspondence

### MERCK'S ARCHIVES:

Among the queries and answers of the January number, p. 331, I notice the following paragraph: "V. H. asks us to decide a very important question, namely, whether he is correct in his statement that 'veratrine is not given internally, but is employed as an external application only.'"

You gave quotations from different authors, which surprised me, considering the state of therapeutics at this day and age. I have practiced over fifty years and have given veratrine a great many times internally; of late years I have given it in combination with other active principles made into a pill. The formula is aconitine, 1-134 grn.; digitalin, 1-67 grn.; veratrine, 1-34 grn. I have prescribed one pill every half hour—sometimes every fifteen minutes for one hour, and then dropped to every half hour—twenty-four to thirty hours continuously without any disturbance to the system or any symptoms of poisoning, and I know of no combination that will so promptly reduce sthenic fever; the pulse and temperature fall gradually but surely. I know of a good many physicians who are giving veratrine in their daily practice.

G. W. CARPENTER,

314 W. 28th street, Minneapolis, Minn.

[We were, of course, fully aware of the fact that veratrine was formerly given internally, and to quite a considerable extent; we also know of its limited use now by some practitioners, and for this reason the dose for internal administration is given in Merck's Manual. But we simply wanted to suggest that it is gradually falling into disuse as an internal remedy, an opinion supported by citations from the highest authorities

in therapeutics. As to the efficiency of the combination in combating sthenic fever, is it not just possible that the aconitine should receive the credit for that, and not the veratrine?—Ed.]

#### MERCK'S ARCHIVES:

With anemia, as in all other morbid conditions, we must remember the three words—"remove the cause," and hence the importance of attending to the surroundings of the patient and all hygienic measures before having recourse to any system of medication. As the importance of hygienic measures have been better understood, the dependence upon drugs has lessened, and to-day the intelligent physician may be known by the small amount of medicine which he prescribes, and by the large amount of instruction he gives relative to the nature of the disease and the personal conduct of the patient.

Now, as the intelligent physician advances in years, he learns to depend principally upon a correct diagnosis and a proper understanding of the principles of medicine. One important point in prescribing is to make all medicines as agreeable as possible. Here is where the "homeopaths" have grown in favor, not by their *similia similibus*, but by appreciating nature, non-interference, and by the small amount of medicine given. By introducing this reform among the "regulars," these individuals are certainly entitled to considerable gratitude from those whose stomachs are no longer overirrigated by the apothecary and whose veins are no longer underdrained by the phlebotomist.

With respect to special medicines in anemia, iron has always been recommended, but of late years has not been considered so important. As iron is always found in the excretions, we infer that nature at all times furnishes all the iron required in the system. A physician who invariably gives iron to every anemic patient does little or no good in half the cases and does harm to a large number. The idea in these cases is to nourish the patient, and if we recommend a mixed nourishing diet we know that it contains all the elements required to build up the various tissues of the body. The mineral acids and bitter tonics are always indicated to stimulate the stomach and promote digestion. Iron is frequently given in diphtheria and erysipelas, not as a tonic, but as a germicide and antiseptic, the perchloride always being selected on account of the chlorine; no physician would ever think of prescribing any other preparation of iron in these cases.

Notwithstanding these plain facts, I have known prominent physicians to give as much as a teaspoonful of tincture of iron every hour to some failing patient, with the idea of supporting his strength, just as a person might support the elevated railway with an iron pillar. Just think of that, and then tell me what you think of our great thinkers.

That rather peculiar form of anemia called chlorosis, according to some authorities, has its origin in the nervous system, and I am inclined to agree with this theory. This condition often occurs in young ladies of a romantic and sentimental turn of mind. Certain disappointments, etc., produce painful emotions of the mind with perverted action of the nervous system; then follows the perverted action of the various other organs and the reaction of the different organs upon each other.

Who among us has not seen young women with all these emotional troubles, and how all aches and pains have quickly disappeared after

having found some one to satisfy their various whims and minister to their wants, by way of sympathy and companionship? With respect to the "green sickness" in young women, if medicine were in a position to regulate the mode of life, food, education, and especially the selections for the propagation of the species, it is quite probable that in succeeding generations chlorosis and many other troubles would become more and more rare in the human race.

The Immortal Bard understood this condition of affairs when he said: "She never told her love, but let concealment like a worm i' the bud feed on her damask cheek, she pined in thought and with a green and yellow melancholy, sat like patience on a monument, smiling at grief."

GEORGE A. WILLIAMS, M.D.,  
Bay City, Mich.

#### MERCK'S ARCHIVES:

For the last two years I have been using ichthyol, not only in all of my tubercular cases, but also as a general tonic in all anemic conditions. As an appetizer and promoter of digestion and assimilation I have found it superior to any or all other remedies of which I have any knowledge. In the treatment of drug and liquor habits I have found it especially serviceable—correcting the catarrhal condition of the stomach in the liquor patients, and in the morphine patients promoting digestion and assimilation to such an extent after the withdrawal of the drug that a gain of from four to seven pounds a week is their usual record while taking ichthyol.

I have found some patients who are unable to take the remedy on account of its disagreeable taste and odor. Endeavoring to overcome this in every way possible, I have found nothing more agreeable than the following:

Ichthyol.....	1 oz.
Saccharin.....	8 grs.
Cinnamon Water.....	to make 4 oz.

Teaspoonful three times a day, beginning with half teaspoonful and increasing by the third day to a teaspoonful.

GEORGE E. PETTEY, M.D.,  
876 Davis avenue, Memphis, Tenn.

#### MERCK'S ARCHIVES:

The following lines may be of interest to your readers:

I recently treated a case of pulmonary phthisis in which I had previously employed malt and cod-liver oil with no good results. I then gave carbonate of creosote in increasing doses, but without influencing the disease in the least. Finally the patient's stomach rebelled, and I was obliged to discontinue it. I am now giving thiocol in increasing doses with quite an appreciable result. The fever has gone, cough is diminishing, appetite increasing, and the outlook so far seems very encouraging.

To another patient I gave thiocol for fermentative dyspepsia. Not only did it cure her of this, but she remarked, "Doctor, you have also cured me of an old cough that I had for years, and you don't know how 'funny' it seems to me to be without it." I have another phthisical patient to whom I am giving it with very marked result. I have found it unrivalled as an intestinal antiseptic. Thiocol works like magic in cases of sub-acute bronchitis.

JOSEPH B. JOHNSTON, M.D.,  
Providence, R. I.

## Prescriptions

A collection of approved and reliable formulas for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Acid Dyspepsia, Fermentative:

Sodium Chloride.....	4 dr.
Sodium Bicarbonate.....	1 oz.
Sodium Sulphate.....	2½ oz.

Small teaspoonful in a pint of hot water an hour before meals. Regulate amount of salts according to bowels—one or two movements daily being desired.

### Flatulent Dyspepsia:

Magnesia.....	} equal parts
Calcium Phosphate...	
Powd. Charcoal.....	
Sulphur.....	

Teaspoonful as required, taken in a little water.

### Acute Enteritis:

Resorcin.....	1 part
Bismuth Salicylate...	} of each, 3 parts
Tannalbin.....	
Sugar.....	} of each, 4 parts
Sodium Bicarbonate..	

A small teaspoonful every two hours.

### Flatulence:

Spirit Cajuput.....	} of each, 4 dr.
Arom. Spt. Ammonia..	
Spirit Chloroform....	

One teaspoonful in a wineglassful of water every half-hour or every quarter of an hour, until relief is obtained.

### Gastralgia:

Chloral Hydrate.....	3 grn.
Sodium Hyposulphite.....	6 grn.
Peppermint Water.....	1 dr.

At one dose. Repeat as required by frequency of attacks.

### Chronic Constipation:

Ext. Cascara.....	} of each, ¼ grn.
Aloin.....	
Oleoresin Ginger.....	} of each, ¼ grn.
Ext. Belladonna.....	
Podophyllin.....	¼ grn.
Strychnine.....	1/100 grn.

One three times a day, or, one or two at bedtime.

### Serous Diarrhea of Nurslings:

Atropine Sulphate.....	1/10 grn.
Distilled Water.....	450 min.

From 1 to 3 drops may be given, but the general condition must be closely watched, and three drops must not be exceeded.

### Diarrhea and Dysentery:

Bismuth Subnitrate.....	4 dr.
Powd. Nutmeg.....	2 dr.
Powd. Chalk.....	2 dr.
Syrup Ginger.....	3 oz.

Shake the bottle. Teaspoonful after each movement of the bowels.

### Acute Diarrhea:

Tannalbin.....	1½ dr.
Powd. Opium.....	2 grn.
Bismuth Beta-Naphtolate.....	1 dr.

Make into 12 powders. One every two hours.

### Convulsions in Children:

It is recommended that a warm bath or mustard bath be given the child, and to prevent recurrence of convulsions give the following.

Potassium Bromide...	} of each, 8 grn.
Sodium Bromide.....	
Ammonium Bromide....	
Syrup Orange.....	1 oz.
Distilled Water.....	to make 3 oz.

From 1 to 3 teaspoonfuls every fifteen or twenty minutes for a child two years of age or older.

### Infantile Diarrhea:

Lactic Acid.....	30 to 45 min.
Syrup Quinces.....	1 oz.
Distilled Water.....	4 oz.

A teaspoonful every two hours. Use the lactic acid in doses of 30 min. in children less than one year old, and in doses of 45 min. in those from one to two years of age.

### Acute Gastro-intestinal Catarrh:

Creosote.....	12 min.
Camph. Tinct. Opium.....	4 dr.
Bismuth Subnitrate.....	3 dr.
Pepsin (U. S. P.).....	1 dr.
Syrup Orange Peel.....	3 dr.
Peppermint Water....	to make 3 oz.

Half a teaspoonful every two hours for a child of two years. Vary with the age and severity of the case.

### Intestinal Torpor:

Tinct. Physostigma...	} of each, 2 dr.
Tinct. Nux Vomica...	
Tinct. Belladonna....	

Thirty drops in water, morning and evening.

### Acute Coryza:

Cocaine Hydrochlorate.....	5 grn.
Sodium Bicarbonate.....	4 grn.
Sodium Borate.....	4 grn.
Iodole.....	1 dr.
Milk Sugar.....	to make 3 dr.

A small amount to be used as an insufflation into the nares once or twice daily to relieve the congestion of the swollen turbinated bodies.

### Cold in the Head:

Quinine Hydrobromate.....	20 grn.
Podophyllin.....	2 grn.
Aloin.....	2 grn.
Atropine Sulphate.....	1/100 grn.
Strychnine Sulphate.....	¼ grn.
Sodium Bicarbonate.....	80 grn.

Make into 20 capsules. One every two hours.

### Crusts and Fissures of the Nostrils:

Oint. Amm. Mercury.....	} of each, 2½ dr.
Borated Vaseline.....	
Zinc Oxide.....	30 grn.
Lead Acetate.....	¼ grn.

For external application.

### Subnasal Sycosis:

Wool-fat.....	} of each, 20 parts
Petrolatum.....	
Glycerin.....	10 parts
Sulphur.....	10 parts
Zinc Oxide.....	20 parts

Make into a paste.

**Pertussis:**

Zinc Sulphate.....	4 grn.
Solut. Atropine Sulph. (1 %)...	12 drops
Syrup Ginger.....	4 dr.
Cinnamon Water.....to make	3 oz.

Teaspoonful twice, and later three times, a day for a child one year old. The dose of the atropine solution may be increased by  $\frac{1}{4}$  drop every third day; the effect to be carefully watched.

**Acute Bronchitis:**

Terebene.....	2 dr.
Mucilage Acacia.....	2 oz.
Dionin.....	4 grn.
Syrup Tolu.....	1 oz.

Teaspoonful every three hours.

**Chronic Bronchitis:**

Eucalyptol.....	1 dr.
Camph. Tinct. Opium.....	4 dr.
Syrup Tolu.....	1 oz.
Simple Syrup.....to make	4 oz.

Teaspoonful every four hours.

Oil Turpentine.....	} of each, 20 min.
Tar.....	
Oil Eucalyptus.....	50 min.
Balsam Tolu.....	$1\frac{1}{2}$ dr.
Benzosol.....	4 dr.

Make into 60 capsules. One four or five times a day.

**Influenza:**

Antipyrine.....	15 grn.
Pilocarpine Hydrochlorate....	$\frac{1}{2}$ grn.
Tinct. Aconite.....	8 drops
Water.....to make	$1\frac{1}{2}$ oz.

A tablespoonful followed by a general bath or footbath lasting ten minutes. After this, the patient is put to bed, and a dessertspoonful given in a glass of hot toddy, to be repeated in twenty minutes unless sweating occurs before. If there is much pain,  $\frac{1}{2}$  grn. morphine may be added to the mixture.

Sodium Salicylate.....	$1\frac{1}{2}$ dr.
Solut. Ammonium Acetate....	2 oz.
Camphor Water.....to make	6 oz.

A tablespoonful every three hours. If this be taken every two or three hours when the first symptoms of cold come on, it will usually ward off an attack.

**Inflamed Rheumatic Joints:**

Sodium Carbonate.....	6 dr.
Tinct. Opium.....	1 oz.
Glycerin.....	2 oz.
Distilled Water.....to make	12 oz.

Saturate hot cloths with the lotion and apply to the parts.

**Cardiac and Renal Dropsy:**

Fl. Ext. Jalap.....	} of each, 4 dr.
Fl. Ext. Squill.....	
Fl. Ext. Jaborandi.....	1 oz.
Fl. Ext. Digitalis.....	30 drops
Potassium Nitrate.....	5 dr.
Angelica Wine.....	2 oz.

A teaspoonful every three hours.

**Diabetes Mellitus:**

Ammonium Carbonate.....	} of each, 10 grn.
Citric Acid.....	
Water.....	1 oz.

To be taken three times a day.

**Sprains:**

Oil Turpentine.....	} of each, 2 oz.
Acetic Acid.....	
Oil Lavender.....	1 dr.
Yolk of 1 Egg.....	
Water.....to make	1 pint

Apply liniment two or three times daily.

**Rheumatism:**

Spirit Camphor.....	} of each, 2 oz.
Tinct. Opium.....	
Ammonia Water.....	
Olive Oil.....to make	1 oz.

Apply emulsion locally four or five times daily.

**Gouty Migraine:**

Quinine Valerianate.....	30 grn.
Ext. Colchicum.....	9 grn.
Ext. Digitalis.....	6 grn.
Powd. Aconite Leaves.....	3 grn.

Divide into 20 pills. One to be taken an hour before dinner, for five days in the week, with a glass of lithia water.

**Acute Rheumatism:**

Salicylic Acid.....	} of each, 3 dr.
Oil Turpentine.....	
Wool-fat.....	
Lard.....to make	3 oz.

Apply to the painful parts, cover lightly with cotton-wool, and renew night and morning.

Tinct. Opium.....	1 oz.
Potassium Carbonate.....	4 dr.
Glycerin.....	2 oz.
Water.....	9 oz.

Apply to inflamed joints on lint, warm. The dressing should be covered by some impermeable material.

**Acute Catarrhal Rhinitis:**

Morphine Sulphate.....	$\frac{1}{32}$ grn.
Strychnine Sulphate.....	$\frac{1}{96}$ grn.
Atropine Sulphate.....	$\frac{1}{160}$ grn.
Arsenous Acid.....	$\frac{1}{100}$ grn.
Aconitine.....	$\frac{1}{1000}$ grn.

One such tablet two or three times a day, according to symptoms. Apply locally:

Cocaine Hydrochlorate.....	10 grn.
Boric Acid.....	4 grn.
Distilled Water.....to make	2 oz.

Spray into the nose when the secretion is excessive and the breathing space narrowed. After five minutes, follow with a spray of:

Atropine.....	$\frac{1}{4}$ grn.
Distilled Water.....	1 oz.

Use as a spray once a day to the nares and allow to remain for five minutes, and then gently blow the nose. This treatment should be followed by an oily spray as a protective:

Menthol.....	5 grn.
Liquid Petrolatum.....	1 oz.

Spray into the nares once a day.

**Coryza:**

Menthol.....	1 part
Ammonium Chloride.....	4 parts
Boric Acid.....	16 parts

Use through insufflator.

ERRATUM.—In the prescription for acute articular rheumatism, on p. 70 of the February number, the amount of menthol was given as 2 pints. This is, of course, a typographical error. The amount should be 2 scruples.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**Therapeutic Nihilism.**<sup>1</sup>—Optimism, not pessimism, is needed in medicine; not, however, the optimism that takes up each new fad to the exclusion of old and tried measures, but the kind that begets hopefulness and confidence. There is a tendency, among a few, to therapeutic nihilism that is to be regretted. He who has watched a huge cardiac edema subside under the intelligent administration of digitalis, or who has seen an angry tertiary syphilide fade away under full doses of potassium iodide, or, above all, who has seen the threatening false membrane of diphtheria shrivel and fall after the use of antitoxin, can never honestly express a disbelief in the benefits of modern therapeutics. Those who are yet opposing the use of antitoxin argue chiefly from *a priori* reasoning. The men who are treating diphtheria with antitoxin and who are old enough to compare their own results under the old means with those since they began to employ the new, have another tale to tell. The therapeutic nihilist has no place in modern medicine; now the science of therapeutics is becoming thoroughly rational. Profession of disbelief in measures for aiding in healing of disease is a confession of personal failure in practice. The fault is in the man, and not in the method. Many diseases yet baffle us, and many of our agents are not yet perfect, but the spirit that will lead to a better state of affairs is only that of hopefulness and of belief in the capacity of medical science to grow until more and more diseases are conquered.

**Medicine and the New Journalism.**<sup>2</sup>—The "New York World" recently invited a number of persons, whose names are for the moment much in the mouths of men, to indicate what they conceived to be the chief danger of the new century. As might have been expected, the answers on the whole were not particularly illuminating; but but were it our hard fate to be compelled to attempt a reply to so foolish a question, we should be disposed to concur with Messrs. Timothy Healy, Max O'Rell, Conan Doyle, and Stanley Weyman, who agree in expressing dread of the influence of an irresponsible press on half-educated people. Mr. Labouchere has recently said that the press is a mighty power for good or for evil, mainly because the world is so largely peopled by fools, who are exceedingly credulous and prefer to have their opinions provided for them to arriving at them by their own cerebral action.

According to this view, then, the public looks to the newspapers for ready-made opinions, as it looks to the baker for baked rolls and to the butcher for dressed chops. It must be acknowledged that the press in the main discharges its functions not only with intelligence, but with as much conscientiousness as the infirmity of human nature allows. There are, however, not a few papers—and their number is increasing—which live by sensationalism. Hence anything that can be dressed up into a column of lurid "descriptive" writing, with flash-light displays of headlines, is recklessly used to stimulate what Mr. Labouchere benevolently calls "cerebral action" in the reader. If the facts are wrong or misrepresented,

the writers would apparently be ready to say with the philosopher of the legend, *Tant pis pour les faits!* It was this readiness to sacrifice the dull matter of fact to cheap literary effect that made Matthew Arnold describe the new journalism as "feather-brained." And it is this kind of journalism, we take it, that Messrs. Healy, Max O'Rell, and the others who have been named, mean when they speak of an "irresponsible press." Not having the gift of prophecy, we are unable to say whether the influence of such a press on half-educated people will be the chief danger of the new century; but it is only too clear that it is already a source of the gravest danger in many matters which directly concern the welfare of the individual, the nation, and the race.

In no province of human affairs are more striking illustrations of the mischief that may be wrought by an irresponsible press to be found than in medicine. When nothing better is to be had in the way of sensation, the eager scribe looks for "copy" in the marvels of medicine and surgery, or the discovery of an elixir of life. The half-educated readers of a popular newspaper were lately told of a man who had one of his eyes split in two. This trifle was, however, easily remedied by an oculist, who "removed the injured eye, put it in a clamp, and welded the split parts together." The man regained the use of the eye, "the only difference being that he cannot gauge distances." The narrator of this wonderful story seems to labor under a similar defect in his mental vision—at any rate in respect of the distance between truth and falsehood. Not long afterwards came the announcement of "one of the crowning triumphs of bacteriological knowledge of the nineteenth century" in the shape of a "cure for dysentery," which was credited to "Dr. Flexmer, a Paris physician." Professor Simon Flexner, of Baltimore, must have blushed to find the bacteriological good which he had been doing, if not by stealth, at any rate in the obscurity of the laboratory, transmuted into fame of this kind. The "breathing cure" was next offered as an attraction, but apparently failed to draw. This was succeeded by a veritable "boom." It was announced that two professors of the University of Chicago (Drs. Loeb and Lingle) had made the marvellous discovery that "common salt, or chloride of sodium, administered in a certain manner, stimulates the heart and produces wonderful rejuvenating effects." It was added that the elixir had been tested on certain millionaires and members of Congress, with such amazing results that exhaustive experiments were to be made in workhouses. Several doctors were, it seems, so carried away by enthusiasm as to declare that it is an easy matter to prolong life to 100 years. But why should we limit our aspirations to a miserable century or two? If salt really possesses a tenth part of the miraculous virtue attributed to it, it would seem that we have only to eat enough of it to make us live as long as Methuselah. The only difficulty is that the price of salt will rise so high as to put it beyond the means of any but millionaires. Poor men must give up the hope of pickling themselves into patriarchal length of days unless they have such a singular stroke of luck as befell Lot. Most of the newspapers have now discovered that there is nothing either novel or miraculous in the new Pentacle of Rejuvenescence. As all medical practitioners know, salt is one of the oldest remedies, and saline injections are no new thing. Nor, alas! are human ignorance and gullibility by any means new. The only new point in the whole matter is the new journalism which, without inquiry or

<sup>1</sup> *Jour. Amer. Med. Assoc.*

<sup>2</sup> *Brit. Med. Jour.*

hesitation, proclaims *urbi et orbi* that the secret of eternal youth has been found in the salt cellar.]

We have no reason to believe that the writers who started this "boom" are stupid or ignorant beyond the average of their readers. To them it is probably nothing more than "Ducdame" was to the melancholy Jaques—"an invocation to call fools into a circle." That this, at any rate, has been the effect of it appears from the fact, which they chronicle with a chuckle, that a "salt-eating epidemic" is now prevalent in London. Now, salt is an excellent thing in moderation, but like other good things, it is, as every medical man knows, harmful in excess. In particular, it lies, under serious suspicion of producing gout or aggravating the effects of that disease. Candidates for longevity who pin their faith on salt may, therefore, find that out of the new elixir comes forth a bane that may seriously imperil their chance of reaching the goal of centenarianism. It may be added that Professor Loeb has publicly repudiated the statements attributed to him in the daily papers. But this circumstance seems somehow to have escaped the notice of the papers which trumpeted his "discovery" to the world.

There are worse offenses to be laid at the door of the daily papers. Not long ago most of them were proclaiming that consumption had received its death blow at the hands of Dr. Hoff, assistant in the Clinic of Professor Stofella (Vienna). A formula with which he was said to have wrought a number of cures was given in hopelessly inaccurate, and indeed unintelligible, form. Among the ingredients was arsenic, but such a trifle as this is nothing to your irresponsible journalist. It turned out that Dr. Hoff had made no pretence of having discovered anything new, and had only published a paper in a Vienna medical journal of unimpeachable scientific orthodoxy. The prescription which he gave was one of several mentioned in the paper, and was quoted by the author as being that of the famous physician, Oppolzer. Its publication in the newspapers probably did no great harm directly, for no pharmacist would have made it up according to the formula given. But the publicity given to the matter led to a claim of priority in regard to the treatment of tuberculosis by arsenic on behalf of Professor Armand Gautier, of Paris, who was said to have for some time used arsenic in the form of cacodylic acid or cacodylate of soda, with marvellous success. The expression is his own, if we may believe the correspondent of the "Daily Telegraph," who quotes the professor as ejaculating *C'est une merveille!* in speaking of the remedy. According to the interviewer, Professor Gautier went on to say that in the vast majority of cases the new medicine has proved literally a sovereign remedy. "Many consumptives have," it is stated, "under Professor Gautier's direction, taken the medicine continuously for nearly three years in perfect safety as regards the general health, and with the most remarkable results in respect of the reduction of the phthisis symptoms." It would be unfair to hold Professor Gautier responsible for the terms of these statements, which overstep the modesty of true science; but it is, we think, to be regretted that he should have given details of the mode of administration of his remedy sufficient to enable any patient to make trial of it on himself without medical supervision. How necessary such supervision is in regard to the administration of arsenic the merest beginner in medicine knows; and Dr. Murrell has shown that the use of cacodylate of soda in the doses pronounced by Professor Gautier to be harmless is by no means free from danger. We therefore

feel it our duty to protest strongly against the publication, without saving clauses, of statements so likely to lead to rash self-treatment as those attributed in the "Daily Telegraph" to Professor Gautier.

This, however, is not the most serious objection to the uncritical reports of alleged medical discoveries in the daily papers. After all, probably few people are foolish enough to drug themselves with arsenic without taking medical advice. The worst effect of reckless announcements of certain remedies for consumption and cancer is the false hope which they inspire in many poor sufferers whose last moments are embittered by the inevitable disappointment that follows. We do not ask the daily press to abstain from dealing with medicine; indeed, we consider it of the highest importance that the public mind should be educated in these matters. It is in the popularization of scientific knowledge that lies the hope of suppressing quackery, which is a weed that thrives in ignorance and credulity. All we ask of the lay papers is that they should not be so ready to publish false miracles of medicine; that they should show a greater sense of their responsibility to the public, which it is their function to enlighten, not merely to amuse or startle; and that they should take some pains to separate the wheat from the chaff in medical as in other matters. We confess we have little hope that this advice will be taken to heart in the quarters where it is most needed, for unfortunately too often the sensational journalist, like jesting Pilate, asks, What is truth? and will not stay for an answer.

**Inspiration Versus Training.**<sup>1</sup>—A most interesting—we are almost tempted to say ludicrous—scene was the hearing before the legislature in reference to a law professing to define what constitutes the practice of medicine. The Christian Scientists were out in force. They snivelled and cried and prayed by turns in the legislative chamber, as they informed the committee of that body what a terrible hardship would be felt by the state in case it was deprived of their services as practitioners of medicine. We would like to imagine the lawyers and the courts, having 5,000 people inspired of God, but without legal education, practicing before the various tribunals of this city. If people practice medicine they should be obliged to know the anatomy and physiology of the human body. If one set of men and women have to undergo a thorough examination on these and kindred subjects before they are allowed to take care of patients, then all people should be thus obliged or forego medical practice. Inspired plumbers, electricians, engineers, navigators, and soldiers and sailors will soon be in order. Nobody should be required to learn any calling or profession, if the art of prevention and healing of disease is not to be learned.

**Antiquated Antitoxin Theories.**<sup>2</sup>—Edward Berdoe, M.R.C.S., has been writing to the papers pointing out that a forecast of the present ideas as to the relation of toxins and antitoxins was made in a well-known seventeenth century publication. The book containing this is Sir Thomas Brown's "Enquiries into Vulgar and Common Errors," and from this the following passage is quoted:

"Poysons may meet with tempers whereto they

<sup>1</sup> *Post-Graduate.*

<sup>2</sup> *British and Colonial Druggist.*

may become aliments, and we observe from fowls that feed on fishes, and others fed with garlick and onyons, that simple aliments are not alwayes concocted beyond their vegetable qualities. . . . The stork that eateth snakes, and the stare that feedeth upon hemlock, though no commendable aliments, are not destructive poysons. For, animals that can innoxiously digest these poysons, become antidotal unto the poyson digested. . . . And therefore also animals that are not mischieved by poysons that destroy us, may be drawn into antidote against them; the blood or flesh of storks against the venom of serpents, the quail against hellebore, and the diet of starlings against the draught of Socrates."

Sir Thos. Brown's book saw the light in 1658, so that, as Sir Edward Berdoe points out, in the seventeenth century the theory of immunizing by the use of antitoxins was intelligently laid down, though based on inaccuracy as to facts.

**A Rainy Day.**<sup>1</sup>—A liquidation of debts is the first and most important thing for any man to do, if for just one reason—it is natural for every one to wish to stand well in the community in which he lives and with those whom he has dealings. Therefore, for the one reason intimated, a man should be careful of his credit, and strive to be known as a person who pays his accounts promptly.

It is astonishing—the moral effect of this plan of procedure in any neighborhood. Cash in hand is better than any man's credit. Spot cash commands the best cuts of beefsteak, at the lowest market price. It commands the best skill in any occupation at the lowest rate, the best dress patterns, and of everything else that is going and worth having. Therefore, the very first step is to arrange one's business so as to make all purchases on a strictly cash basis, and a physician can do this just as well as any other man. Debt is a potential slavery.

The other side of the day-book and ledger makes an exhibit of credits, or sums owed by others. On this side of the book there must of necessity be more elasticity, but it may also be made to square with justice. This elastic character comes from the inherent nature of the occupation of a physician. First of all, there are the obligations that cannot be shirked, pay or no pay; but there is a great deal of money annually lost to the profession because of a laxity in making prompt collections from those who are in ordinary and good circumstances. There is no assistant in this direction that is one-half so good and valuable as an established reputation upon the part of the doctor for paying as he goes for everything he buys. In a quiet way, without giving offense, he has a right to make it known to his patrons that he wants their cash in order to be able to obtain books, instruments and white bread and butter.

Then, again, a physician is not providing for his household after the mandatory manner of Paul's obligation if he lives from day to day in a hand-to-mouth fashion, be the living ever so good; but he must provide for old age and rainy days, as well as for those who are dependent upon him after he has taken his departure for the New Jerusalem. This obligation is generally recognized, as shown in the prosperity of life insurance companies as well as all sorts of benevolent orders.

In addition to these provisions, which are incalculable in the amount of good they do, a doc-

tor is justified in being sufficiently ambitious to want to have a comfortable bank balance, which in turn leads him to think of making some little investments. In this direction a little holding of real estate is always a desirable thing to have. In these latter days there are avenues and avenues beyond count where legitimate investments may be made. In former years building associations absorbed much of the surplus earnings of professional men. Savings banks and trust companies are their successors. For their soundness and stability the doctor has to depend upon his own judgment, and however good this may be, there will be occasional errors and mistakes made in diagnosis, but, in the main, men are honest and conduct the business in which they are engaged in an honorable way.

**Cost of Alcoholism in Paris.**<sup>1</sup>—A Paris journal, writing on the waste caused by alcoholism, points out that hospital statistics alone show that inveterate drunkenness in itself costs the city at least 2,000,000 francs per annum, through the lost labor of the individual and through the expenses connected with hospital treatment.

**Going to Bed Hungry.**<sup>2</sup>—This is a relic of the misconception of the laws of hygiene following physiological investigations in the early part of the last century. Man is the only animal who was ever foolish enough to voluntarily go to sleep while hungry. Judging from the advice now given by thinking physicians, the practice will soon become a mere tradition.

**Sunshine and Sleep.**<sup>3</sup>—Sleepless people—and there are many in America—should court the sun. The very worst soporific is laudanum, and the very best is sunshine. Therefore, it is very plain that poor sleepers should pass as many hours as possible in the sunshine, and as few as possible in the shade. Many women are martyrs, and yet they do not know it. They wear veils, carry parasols, and do all they possibly can to keep off the potent influence which is intended to give them strength, beauty, and cheerfulness. The women of America are pale and delicate. They may be blooming and strong, and the sunlight will be a potent influence in this transformation.

**Koumyss as a Therapeutic Agent.**<sup>4</sup>—C. Fleuroff has during the past six years noted the following action of koumyss, or fermented mare's milk: (1) In anemia, neurasthenia, and hysteria, amelioration of general condition and all symptoms; (2) in some cases of hepatic and renal colic, increase of the pain; (3) in diseases of heart and blood-vessels, negative results; (4) generalized tuberculosis, negative results; (5) in incipient and early phthisis, improvement of appetite, of digestive functions and of the general condition, increase of weight, diminution of cough, amount of sputum, fever, etc.; (6) treatment by koumyss should be long continued; (7) diseases in which it is contraindicated are: Atheroma of blood-vessels, heart diseases, abdominal plethora, rheumatism and gout, cerebral hyperemia; the later stages of pulmonary phthisis, hemoptysis, hepatic and renal colic.

<sup>1</sup> *Jour. de Méd.*

<sup>2</sup> *Diet. and Hygienic Gazette.*

<sup>3</sup> *Public Health Journal.*

<sup>4</sup> *Med. Record.*

<sup>1</sup> *Cincinnati Lancet-Clinic.*



## Book Reviews

**THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1901.** A yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books, of the leading American and foreign authors and investigators. Arranged with critical comments, by eminent American specialists.

Dr. Gould's year-book needs no introduction to the medical profession of America. Its excellent features have long been known. The work is at present divided into two volumes, and this innovation instituted a year ago, has met with general approval. As the publishers say, the arrangement has a two-fold advantage. To the physician who uses the entire book, it offers an increased amount of matter in the most convenient form for easy consultation, and without any increase in price; while specialists and others who want either the medical or the surgical section alone, secure the complete consideration of their branch at a nominal sum, without the necessity of purchasing material for which they have no special use. The contributors to the present volume are: Alfred Stengel and D. L. Edsall, general medicine; Louis Starr and Alfred Hand, pediatrics; David Riesman and A. O. J. Kelly, pathology and bacteriology; Archibald Church, nervous and mental diseases; Louis A. Duhring and M. B. Hartzell, diseases of the skin and syphilis; R. W. Wilcox and A. A. Stevens, materia medica, therapeutics, and pharmacology; G. N. Stewart, physiology; Wyatt Johnston, legal medicine; S. W. Abbot, public hygiene and preventive medicine; Walter Jones and Reid Hunt, physiological chemistry. (Philadelphia and London: W. B. Saunders & Co., 1901. Per volume: Cloth, \$3 net; Half Morocco, \$3.75 net.)

**MANUEL D'HISTOLOGIE PATHOLOGIQUE**, par les Profs. Cornil et Ranvier, publié avec la collaboration des Drs. Brault et Letulle, 3e édition entièrement refondue. Tome I., avec 369 gravures en noire et en couleurs dans le texte, 25 fr. The monumental work of Cornil and Ranvier, which has become a classic throughout the medical world, is now appearing in a new edition. Though the general plan of the work has been preserved it is practically a new book. The description of the macroscopical and microscopic appearances of the various normal and pathological tissues remains the same as it was in the previous editions, because, as the announcement well says, what has been carefully observed twenty years ago is also true now, and will remain true forever. But the additions are very numerous. The revised work will appear in four volumes, the first one of which is now before us. The principal divisions are as follows: General considerations of normal histology, by Ranvier; general consideration of pathological histology by Cornil; Tumors, by Brault; Bacteria, by Bezançon; Lesions of the bones, cartilages, and articulations, by Cazin; Lesions of the connective tissues and serous membranes, by Cornil. The 369 illustrations, in color and black, are very clear and really illustrate. The style is so plain and clear that even those who are not fully conversant with the French language will have no difficulty in consulting it intelligently. There is probably no other work on pathology in any lan-

guage that equals the work of Cornil and Ranvier. (Paris: Felix Alcan, editeur.)

"Details Count." In no sphere of activity is this laconic adage more true than it is in medicine. Not infrequently the most careful diagnosis and the most skilfully performed operation are brought to naught by the failure to observe some apparently trifling detail, either in the preparation or after-management of the patients or in the operative technique. **THE TECHNIQUE OF SURGICAL GYNECOLOGY**, by Dr. Augustin H. Goelet, has for its purpose the description, with sufficient fulness and detail, of the operative procedures of the more common gynecological operations, that it may serve as a guide to the inexperienced operator. Much space and care is devoted to the subject of preparation for operations and after-treatment of the patient. The author has endeavored throughout the work to impress the fact that many of the annoying, distressing, and even dangerous by-effects and accidents can be avoided by proper attention to details. The work contains 142 illustrations, nearly all of which are from original sketches made at the time of the operation. (New York: International Journal of Surgery Co., 100 William street).

**THE INTERNAL TREATMENT OF SKIN DISEASES** (Die innere Behandlung von Hautleiden), by Dr. Jessner, is a very useful booklet. It lays special stress upon the necessity of combining internal treatment with the local—a fact universally acknowledged in this country and in France, but still little recognized in Germany—if we wish to be successful and if we expect our cures to be permanent. This is the fifth in Dr. Jessner's Dermatological Addresses for the General Practitioner. (Würzburg: A. Stuber's Verlag, 1901. Price, 75 pf.)

### Publications Received

- Varicose Veins of the Vulva. By William Edgar Darnell, A.B., M.D. Reprinted from "The Philadelphia Medical Journal," Jan. 13, 1900.
- Hygiene in Therapeutics. By Edwin W. Pyle, M.D. Reprinted from "The Medical Times," Feb., 1901.
- Increasing the Therapeutic Value of Cod-Liver Oil by the Addition of Free Iodine and Free Phosphorus. By Louis I. Lautenbach, A.M., M.D. Reprinted from the "Medical News," Oct. 20, 1900.
- New Points in the Anatomy and Histology of the Rectum and Colon. By J. Rawson Pennington, M.D. Reprinted from "The Journal of the American Medical Association," Dec. 15, 1900.
- Thirty-second Annual Report of the Brooklyn Eye and Ear Hospital. Jan., 1901.
- Address in Obstetrics. By Charles P. Noble, M.D. Reprinted from the "Pennsylvania Medical Journal," Nov., 1900.
- The Etiology of Seasickness. By William Edgar Darnell, A.B., M.D. Reprinted from "The Journal of the American Medical Association," March 11, 1899.
- Abdominal vs. Vaginal Hysterectomy. By Henry O. Walker, M.D. Reprinted from "The Physician and Surgeon," November, 1900.
- Intestinal Antisepsis in Typhoid Fever. By J. M. Anders, M.D., LL.D. Reprinted from "The Therapeutic Gazette," April 15, 1900.
- Acute Yellow Atrophy of the Liver. By Stephen Smith Burt, A.M., M.D. Reprinted from "The Lancet," London, May 19, 1900.

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

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### Recent Suggestions for Therapeutic Research

IT would be well for medical men, and particularly those who like to experiment along new lines, to be on the alert regarding what is being done in fields of research usually deemed too remote from their work to influence it in any appreciable degree. Since it is a well-established fact that throughout the whole course of development there is a constant consensus of interaction between the various sciences, those interested in therapeutic research should at least keep track of what is being done in the various departments of chemistry and biology, as these are likely to have frequent points of contact with their work. At the present moment there are not less than three distinct lines along which such contact is occurring, and which by proper study, with careful experiments, might prove of unusually great importance. Embryology has been laying a basis for pathology, which gives distinct hints that might be utilized by therapeutics; organic chemistry is almost daily laying bare new facts that lead directly toward a rational understanding of the fundamental laws governing the actions of remedies; and bacteriology seems upon the eve of lending us assistance in our attempts at solving the same problem. Prof. Minot, of Harvard Medical School, in the Middleton Goldsmith lecture delivered before the New York Pathological Society on March 26, 1901, points out the first of these; Dr.

Sigmund Fraenkel, lecturer on medical chemistry in Vienna University, in his newly published work, "Die Arzneimittel-Synthese," throws light upon the second; and Kijanitzin in *Virchow's Archiv*, 162, p. 515, the third. The most suggestive among the many suggestive passages in Prof. Minot's exceedingly valuable paper, so far as it bears upon the immediate progress of therapeutics, is that wherein he speaks about the disappearance of the degenerated material in the obplacenta of the rabbit. He tells us that "the only available hypothesis seems to be that of a chemical change by which the material becomes soluble or is dissolved, for we see the disappearance of the substance taking place in *the very heart of the layer*, and not merely at the surface. Sloughing is impossible, and there are no phagocytes; leaving the chemical explanation as the only one I have been able to conceive. . . . May it not be that the body produces histolytic toxins, which can destroy tissues somewhat as do snake-poisons?" In closing his discourse, the doctor states: "Physiological morphology is a new science; we have barely crossed its threshold, and are not yet at home in it. To the physician this new science promises to far surpass in practical importance even the bacteriology of our time, since it is not presumptuous to hope that when we understand the physiological factors — thermal, chemical, stimulant,

mechanical, and other—which bring about structure, which cause cytomorphosis (the total structural changes of a cell's life), we can acquire control over cellular differentiation, and ultimately be able to prevent some of the most formidable diseases over which we now have little or no power." If the body produces chemical substances capable of attacking and completely causing the disappearance of degenerated materials, in the manner indicated, would it not be worth while to go in search of such substances so as to isolate and use them as occasion requires? If no such substances can be isolated, the work done would no doubt still be of great value in leading to a more thorough knowledge of the chemistry of blood and of its enzymes and other active constituents. Much as has been done within the past few years in this particular field of research, it is still to all intents a veritable *terra incognita*.

From Dr. Fraenkel's book a large fund of information can be acquired concerning what is being done by many chemists in solving the problem of the relation of chemical structure to physiological effect. It would be impossible within the limits of this article even to refer to all the different directions in which such research is proceeding. Two of the most interesting are the relation of atomic weight to toxicity, as worked out by Blake, and the relation of solubility of organic substances to their hypnotic power, as shown by the studies of Hans Meyer. According to Blake, toxicity increases with the increase of atomic weight within isomorphous groups. This is shown in Li and Ru, with their atomic weights of 7 and 85, the fatal dose per kilo of animal weight for each of which is 1.2 Gm. and 0.12 Gm. respectively. It is likewise shown in Ag and Au, the atomic weights of which are 108 and 196, while their toxicity is as 0.028 to 0.003 Gm. per kilo. In Gl, Al, and Fe we have atomic weights of 14, 27, and 56, with corresponding toxicities of 0.023, 0.007, and 0.004 Gm. In Yt and Ce we have atomic weights of 90 and 140, with toxicities of 0.004 and 0.005 Gm. respectively. In a study of the acetines, the glycerin ethers, the acid amides, and other organic

bodies of like character, Meyer reaches the conclusion that the narcotic effect is ascribable solely to their solubility in fat and not to any decomposition or saponification products. He holds it as probable that all substances soluble in fat have a narcotic effect upon living protoplasm. It may be that they by such solubility hinder or obstruct the connections of the dendrites of the neurons. A table is given by Fraenkel in which it appears that those substances are the strongest hypnotics which are at once the most soluble in fats and least soluble in water. This is shown to hold good of the groups that had hitherto been supposed to receive their hypnotic power from the ethyl radicles in their composition.

The experiments of Kijanitzin come at the present time as a startling assertion of the interdependence of all forms of life upon each other. If he has made no substantial error in reaching his results, it appears that the higher animals cannot live without the assistance of the hitherto dreaded microbes. To sterilize the air we breathe is, if he is right, to render it unfit for the sustenance of life. Animals placed in sterile vessels and supplied with sterile air emaciate, and in a few days, if not removed, are sure to die; even after removal profound deleterious effects appear. The experimenter further says that in breathing ordinary air microbes are inhaled, devoured by the leucocytes, and digested by them, and from their structures the leucocytes extract ferments that are necessary to promote normal oxygenation in the body. When the microbe supply is cut off, ferments disappear from the blood and leucocytes with other imperfectly decomposed waste products accumulate, to finally kill the animal. If this explanation has any foundation in fact, it suggests a number of new lines of therapeutic research which are sure, before long, to be worked out by some one. The question of the rôle of blood-ferments on health and disease is one of great interest aside from Kijanitzin's startling results and theory. He has but widened the scope of inquiry and, perhaps, shown new lines of possible treatment for the multitude of sufferers from auto-intoxication.

[Written for MERCK'S ARCHIVES]

**THE THERAPEUTICS OF IPECAC**

By W. H. Blake, M.D., Philadelphia, Pa.

IPECAC is valuable as a remedy for functional derangements because it is an excitor of vasomotor and ganglionic centers generally; and because by adaptation of preparation, of application, and of dose we can sensibly affect one or more groups of those centers at our pleasure, and thus increase or abate functional activity of the various glands and tissues. With it we may cause pustular eruptions, or cure such eruptions; we may increase or restrain mucus secretions, and we may cause or check severe vomiting.

When the blood-vessels are in their normal condition, ipecac, in full doses, at first energizes the circulation and increases the rapidity of the blood-current, but diminishes its volume, until, tending to vasomotor spasm, it so restricts the peripheral circulation as largely to centralize the blood and thus, perhaps, cause pulmonary congestion, congestion of the bronchial and intestinal mucous membranes, with, coincidentally, some degree of renal congestion and consequent albuminuria; the external temperature falling and the internal temperature rising. The effect of ipecac upon the pulse-rate depends upon the condition of the circulatory system and the amount taken; the tendency is to increase the contractile energy of the heart and arteries, with, at first, a somewhat augmented pulse-rate which decreases as the contractions become more pronounced and the tendency to tonic contraction increases.

Ipecac is often used externally, and when applied locally, in the form of poultice or paste, to venomous bites or stings, it often allays the pain and irritation in a remarkable degree; but it should be remembered that, if of good quality, it is capable of causing vesication, even a pustular eruption similar to that caused by tartar emetic.

When ipecac of good quality is applied externally, it causes excitement of the sensory filaments and irritation; reflex motor energy is evoked, and for a time the blood is forced into the dermal capillaries more rapidly than they are capable of emptying themselves; the sudoriparous glands secrete their product more rapidly than it transpires through the cuticle, and it accumulates beneath that portion of the integument in the form of vesicles. If the irritation be sufficiently great and long-continued the peripheral ganglia become exhausted, the vital energy of the tissue is greatly impaired, and the death and dissolution of dermal

cells occurs, as is evidenced by the presence of actual pus in the vesicles.

When, by reason of bad air, improper food, defective digestion, an enfeebled circulation, and impaired nutrition, an accumulation of effete matter in the system results, the skin and all other glands failing properly to perform their functions—then the lymphatic glands being overloaded, swollen, distended with material of which they are powerless to free themselves, become suppurative, and marasmus, tuberculosis, or pustular eruptions on the skin may result. For such cases, small doses of ipecac frequently prove curative; *not* because, as before stated, ipecac is, under other circumstances, capable of causing pustular eruptions, but because, being a general excitor of the ganglionic system, it, by increasing the energy of the circulation, promotes digestion and nutrition; and being eliminated by the skin, mucous membranes, and the kidneys, and acting as a general excitor of glandular energy, it promotes the elimination of all morbid elements and waste matter. This being accomplished, there is no longer cause for destructive processes; and, because of improved nutrition, the tissues are presently reconstructed on a more substantial basis. It is evident, therefore, that neither as a cause of, nor as a cure for, pustular eruptions does ipecac afford any foundation for the dogma *similia similibus curantur*.

The dust of ipecac, when inhaled, acting locally as an irritant, causes dyspnea, congestion of the mucous membrane of the pharynx, larynx, and bronchi, and consequent hoarseness and cough; to these effects, and some others, some people are peculiarly susceptible, the slightest particles, and even the odor, causing great distress. When from exposure to change of temperature the mucous membrane of the pharynx becomes engorged, and its function nearly suppressed, the mucus which is produced is more viscid, glutinous, and tenaciously adherent. It forms a coating on the inner surface of the pharynx, and the extra heat of the parts together with the current of air passing to and fro over its surface tends to dry that surface and render it still more tough and tenacious, while at the same time the thickness of the coating is steadily increased by growth from the mucous membrane: the voice becomes hoarse, the cough becomes more or less metallic, inspiration is prolonged and impeded, and attended with a crowing or piping noise, and the accumulation of mucus extends over tonsils, fauces, and the upper portion of the esophagus; the coating is too adherent to be dis-

lodged by coughing or gagging, and the patient is in danger of suffocation. Such is the philosophy of croup. Then ipecac in small doses, frequently repeated—acting at first, in a small degree, locally and reflexly, and after absorption, in greater degree, centrally and directly, by causing contraction of the blood-vessels and excluding the excess of blood—renders normal functional action possible. There is free production of mucus of normal consistence, which, being much thinner than that previously formed, and exuded between it and the mucous membrane, the thickened and tenacious mucus, called the “false membrane,” slips upon it and is thrown off by the coughing and gagging caused by its presence. It is thus that ipecac cures croup, and *not* because it, or anything else, is capable of causing, in some degree, a similar condition.

When the bronchial mucous membrane is so congested that the function of the mucous glands is suppressed, ipecac in doses of  $\frac{1}{8}$  to  $\frac{1}{5}$  grain, repeated as required, by exciting the contractile energy of the blood-vessels excludes the surplus blood; the glands resume their function, the membranes become moist, and expectoration is promoted. When the blood-supply of the mucous membranes of the larynx, trachea, and bronchii is somewhat excessive, and the functional energy of the membranes is adequate, there may be a proportionally increased production of mucus; even so great as to cause danger of strangulation. The mucus accumulates faster than it can be voided, the patient at last becomes exhausted and unable either to expel it or breathe through it; then ipecac, by causing constriction of the blood-vessels, excludes the excess of blood, perhaps renders the supply even less than normal, and coincidentally and consequently arrests the production of mucus, and respiration becomes normal, the patient being perhaps saved from strangulation. Catarrhal patients are liable to the affection described, and the so-called “catarrh of the chest” of infants and the “death rattle” are instances.

Minute quantities of ipecac applied locally have appreciably only a local effect; thus triturations used as a snuff for nasal catarrh, or applied on the tongue for laryngeal catarrh, for croup, or for foul-coated tongue, do not appreciably affect more than the nerves and peripheral ganglia supplying the blood-vessels and tissues of the immediate neighborhood; and there results simply contractions of those vessels and tissues, the abatement of congestion, and a greatly

diminished production of cell structure and of mucus.

If swallowed in very small quantities, the stomach being in fairly good condition but weak, ipecac causes increased appetite and an actual (though perhaps unnoticed) increase of digestive power; there will also be a slight increase of energy propulsive of the blood-current. The skin will be better supplied with blood, the peripheral circulation more perfect, the function of the sudoriparous glands better performed, elimination by the skin more complete, and the complexion improved.

Ipecac is indicated where the stomach is much enfeebled, the tissues lax, its blood-vessels without contractile energy and distended with blood forced into them by stronger vessels behind, and of which they lack power to clear themselves—one consequence being an excessive degree of heat, another an excessive production of mucus, another an excessive amount of gastric fluid, of inferior quality, incapable of digesting food, causing atonic indigestion with sour stomach, flatulence, and eructations having the odor of sour mash; often canker spots in the mouth, etc. In these conditions ipecac, if taken in doses of  $\frac{1}{4}$  grain several times a day, having precisely the same influence upon the nerves and centers of the locality as it has elsewhere—exciting increased energy in the blood-vessels supplying the gastric mucous membrane—prevents their being so distended with blood. It also, therefore, prevents the excessive heat, excludes the excess of material, gradually puts an end to the hot-house growth of mucous cells, and checks the production of excessive amounts of worthless gastric fluids. Acetous fermentation of the food no longer occurs, acid gases are no longer developed and set free, microscopic fungi are no longer generated, and aphthous ulcers no longer afflict the patient.

When by reason of a degree of spinal exhaustion—perhaps from excessive exercise at play, from continuous nervous irritation caused by teething, or from long-continued hot weather—the blood is not proportionally distributed to the extremities and to the outer surface, but tends to centralization, and the solar plexus becomes engorged and irritable, then the digestive fluids are altered in quality, the stomach is perhaps burdened with improper and undigested food, and excessive ganglionic energy is manifested by frequent vomiting and purging, which perhaps continues long after the stomach is emptied. In this condition ipecac, in very small doses, frequently repeated, tending, by exciting vaso-

motor centers, to increase peripheral circulation and to abate central congestions, relieves the solar and other ganglionic plexi of their excess of blood, and thereby decreases their irritability and functional activity: consequently the vomiting and purging cease. It should be noticed that small doses of ipecac, sufficient only to excite those nerve centers which energize the blood-vessels, check vomiting—*because* they cause contraction of those vessels that are furnishing the solar plexus, and thus exclude that excess of blood and deprive that center of its energy; and *not* because large doses sufficiently powerful to excite also the entire ganglionic system, including the solar plexus itself, will cause vomiting. The saying *similia similibus curantur*, whether rendered “like cures like” or “like things by like things shall be cured,” affords no explanation of the facts, nor any true philosophy as to “the reason why” in the practice of medicine; it does not signify the law of the cure, nor should it be adopted as the “reason why” for the administration of any remedy.

Ipecac is a specific emetic; when it is absorbed in sufficient quantity to affect the solar plexus, it causes nausea and vomiting, whether given by the mouth or by injection. Emetine, its active principle, causes nausea and vomiting whether given per os, per anum, by injection into the veins, or hypodermically. Although ipecac causes much nausea and continued muscular straining, it is safe even in large doses, and causes much less prostration than lobelia, tartar emetic, and some other emetics.

It is so valuable a remedy for dysentery that it is well worthy of its old name “radix antidyentericus.” It checks “bloody flux” in the same way that it checks the excessive production of mucus in the throat—i.e., by causing contraction of the small vessels supplying the part and so restraining the hemorrhage—and I agree with Dr. Higginbottom, who states that “the main efficacy of ipecac is due to its influence in increasing the innervation of the capillary system; and for fifty years I have with this view been prescribing it for English cholera, uterine hemorrhage, syncope, diseases of old age, etc.” It is also capable of causing uterine contractions.

It is, therefore, apparent that whenever ipecac is used as a curative agent its line of action is always the same, and *directly opposed* to that of the cause inducing the condition upon which those symptoms indicative of functional derangement are based; it is apparent that its effects depend upon the condition of the patient at the

time, upon the quality and the character of the preparation, the mode of its application or administration, *the size of the dose*, and the frequency of its repetition.

[Written for Mæck's Archives]

## ATROPINE IN ALGID, PERNICIOUS MALARIAL FEVER (CON- GESTIVE CHILL)

By I. L. Van Zandt, M.D., Fort Worth, Tex.

GRADUATING in '66, I began practice in a locality where malaria was rife, but not for two years did I meet with a case of congestive chill. But though thirty-three years have passed since my first experience with the malady, the details are still firmly fixed in my mind.

The patient was a middle-aged man; pulse was feeble and rapid; respiration, sighing; he wanted fresh air, which, though furnished in abundance, failed to supply the much-needed oxygen, for the whole skin was blue, soft, and moist, and cold as that of a dead man. The hands were shriveled; the tongue, but slightly coated, was pale, though slightly blue. Notwithstanding his appearance of being cold, the patient clamored for cold water, which was no sooner swallowed than vomited, as was everything else. The vomited matter was mixed with a little mucus or bile, or with blood simulating the discharges from the bowel. These were much more constant and characteristic. They were serosanguineous, being best likened to the washings of bloody meat. The condition very much resembled the collapse of cholera, except in the substitution of the bloody water for the rice-water discharges.

I tried to follow the treatment laid down in the current text-books, yet this patient died. I studied the books more closely, yet my next two cases of congestive chill died also. These patients were all taken early in the day and died the next morning, no reaction having occurred. I became dissatisfied with the treatment in the books, arguing thus: In these cases the skin is blue, cold, and moist; now, if I can only make it red, hot, and dry my patient will be relieved—not cured, for this must be done by the preparations of cinchona.

Belladonna suggested itself to me as a fit agent. But when the next case came, I hesitated to lead out and abandon the directions of the authorities. The patient was taken in the morning. I watched him all day and up to midnight, following in the footsteps of the others. By this time he was comatose, his pulse a mere thread.

Now I became desperate. Dissolving  $\frac{1}{4}$  grain of solid extract of belladonna in a few drops of water, I gave it hypodermatically. Waiting an hour and seeing my patient no worse, I gave a second dose. In twenty minutes the pulse and general conditions showing signs of improvement, I made ready and gave the third dose. Soon after this the patient became conscious, reacting nicely.

Since that time I have treated several cases, always with success, latterly substituting atropine sulphate for the belladonna. Having learned that the medicine does no harm, only good, I now begin more boldly, giving, at first,  $\frac{1}{60}$  grain of atropine sulphate, and more in twenty or thirty minutes if no very decided effects are produced. In some of my later cases I have supplemented the atropine with a good dose of strychnine sulphate, say  $\frac{1}{30}$  or  $\frac{1}{20}$  grain. Under this medication, and generally in a few minutes, reaction occurs, and vomiting and purging cease.

I find that atropine acts equally well in other chills, non-malarial as well as malarial. At present, when atropine is recognized as a stimulant, both cardiac and respiratory, and almost every hypodermic case is provided with tablets of it, it would naturally suggest itself as a remedy in this condition, as in the kindred condition of collapse from any cause. But at that time belladonna was known as "narcotic, antispasmodic, anodyne," etc., and I had no warrant for its use except the noted difference in the skin of my patient and in one I had treated suffering from an overdose of belladonna.

This observation, with others in different classes of cases, led me, in 1873, at the close of a paper read before a local medical association, to say: "Belladonna is a stimulant to the sympathetic nervous system." It is now recognized as such by all therapists.

502 Main Street.

**GUAIACOL IN SEROUS PLEURISY.**—Norbieff<sup>1</sup> has employed guaiacol in thirteen cases of serous pleurisy, the affected region being painted with the drug. Profuse perspiration and fall of temperature followed. Considerable loss in weight was noticed (as much as 2 pounds after a single application). The general condition became worse. A violent chill preceded each elevation of temperature after the perspiration. The use of pure guaiacol was followed by symptoms of collapse. A mixture of guaiacol and alcohol (one-third) was better borne.

<sup>1</sup> *Med. Obs.*, 1901, No. 12.

[Written for MERCK'S ARCHIVES]

## SCALDS AND DRY BURNS

By A. D. Binkerd, M.D., Ph.D., West Monterey, Pa.

WITH reference to origin, this class of lesion may be considered under the above two heads, but the treatment is substantially the same. A burn is the most dangerous, as well as most painful, of all wounds. In spite of the frequency of burns, and the unsightly disfigurement of the part which is so liable to follow, to say nothing of the danger to life, no scientific or satisfactory line of treatment has come down to us in "the books," as the combined result of past experience. Perhaps no common ailment or traumatism is so little understood by the average doctor. Not two of a dozen physicians follow exactly the same mode of treatment, when suddenly called to attend a recent case of scald or dry burn.

The liability of a physician to be called at any time to give relief to the victim of a burn, and the very peculiar nature of the lesion—differing as it does from most others—should be sufficient reason for every physician to know of some definite, rational, and scientific mode of procedure, ready to be put into execution without hesitation or delay. No time need be lost in examination or diagnosis. The pain is not less excruciating when occasioned by a very small burn; indeed, it is often more severe than if the tissues had been deeply destroyed, thus obviating the sensibility of the part.

At the close of the Civil War the writer drifted into the oil regions of Pennsylvania, where thousands of barrels of crude oil and millions of cubic feet of gas were forced out of the bowels of the earth every day. Violent explosions and alarming conflagrations were of frequent occurrence. Many persons were burned to death, and many more sustained non-fatal, but very painful burns of various degrees of extent and severity. Scores of these patients fell into my hands for treatment. At first I did not have any efficient and rational mode of treatment, but followed the method then in use, with the usual lingering results. Week after week would show little improvement in these cases. If the patient had vitality enough to endure the strain upon his constitution for two, three, or four months he would pretty surely recover, but generally with a marked and unsightly cicatrice or distorted limb. At that time lead carbonate was recommended as a topical application to the burned surface by no less distinguished an authority than Professor Samuel D. Gross, of Philadelphia. In his masterly work on Surgery (vol. I., p. 568, 4th ed., 1866), he

says: "I continued the remedy for upwards of five weeks, consuming more than a quart of the lead, without observing the slightest injury."

Prof. Gross does not encourage us by saying that he observed any marked benefit arising from the topical application of the lead carbonate to a severely burned surface. I tried this remedy and found it wanting. It was sticky, unsightly and unsatisfactory. The lead did not even have in its favor the capacity of relieving pain, nor did it lessen the ichorous effusion or in any way alter the character of the lesion. I soon abandoned it in this connection. The same fate awaited the use of the then popular carron oil, a mixture of lime water and linseed oil.

Dissatisfied with these makeshifts, I ransacked our armamentarium and the *material medica* for effective agents for topical application to lesions known the world over to be *sui generis*. My efforts were soon crowned with partial success. Little by little, in trial after trial, I learned of that for which I sought. Not a special creation, but an adaptable substance or combination of simples possessing therapeutic qualities or physical properties, indicated by the character of the lesion—the logical result of thought, study, and hard common sense.

My first case was that of a young girl, who had sustained a rather severe burn of the upper arm, side and shoulder. I dressed the wound with the standard remedies most faithfully, week after week. In spite of every effort to arrest it, the suppuration was profuse and exhausting. I really began to fear that the patient must succumb to the depressing effect of devitalizing drainage, while the wound showed little or no signs of healing. I then resolved to cut loose from the traditional abominations, and experiment on the line of rationalism. I tried this astringent and that analgesic, and soon observed that the profuseness of the discharge was diminishing after the application of astringents. The character of the discharge became more plastic or less sanious. This was my cue and I plied it with the heat of an apostle. In due time the patient began to eat and sleep better; grew stronger as the discharge diminished. She recovered after several months' lingering on the brink of the grave, but with impaired constitution and distorted body.

I venture the assertion that within the period of ten years first following my arrival in the oil fields of Pennsylvania, I saw and treated more cases of scalds and dry burns, of every degree of severity, than ordinarily fall to the lot of an active physician in a lifetime, or fifty years' practice.

In the many long years of experience in the treatment of burns, I have been continually on the lookout for better and more efficient agents to meet the peculiar requirements of the different phases of this class of traumatism. Year by year, my favorite topical remedy has been approximating the very satisfactory efficiency to which it has now attained. I propose to give only a brief synopsis of my method of treatment, together with a full description of the remedies employed.

The first indication when called to treat a burn is to relieve as promptly as possible the excruciating pain.

I have given morphine sulphate, as much as  $\frac{1}{2}$  to  $\frac{3}{4}$  grn., to a young, healthy adult. This is heroic treatment, but I have seen no serious injury following such doses. However, I have long since abandoned the use of morphine and opium in the treatment of burns, because of derangement of the secretions following their use—a matter of paramount importance. An entirely safe and trustworthy agent for suppressing pain, without affecting the secretions, is a mixture of carbolic acid and glycerin—pure glycerin, 2 parts; best carbolic acid, 1 part [crystals liquefied by not more than 10 per cent. of water]. These are to be thoroughly incorporated with each other. The mixture may be freely applied to any burn of whatsoever degree of severity, as promptly as possible, and with the happiest results. The pain will vanish in five minutes. At first I had some fear as to a possible evil effect of the carbolic acid, using less than one-eighth of the acid in the mixture.

For a child who had sustained a severe burn on the hip, I left two bottles with instructions for use. The one contained glycerin feebly acidulated, perhaps 1 to 7 parts, the other contained liquid carbolic acid. Instructions were to renew the dressing when the pain began to be severe. By mistake, the wrong bottle was used. The carbolic acid, full strength, was freely applied to the fresh wound. Only a little exacerbation of pain followed its use. This very soon vanished and did not return. The wound healed promptly in a very short time. I took the hint. For more than twenty years I have been using, as the first application to recent burns, glycerin strongly impregnated with carbolic acid. This freely applied to the wound, then covered with carded cotton, over which a roller bandage is loosely adjusted, will stop the pain promptly and effectually.

At Parker's Landing, Pa., my office was within five minutes' walk of a score of wells in active operation, and as many more in



process of construction. This was a very prolific field in gas and oil, and also in accidents. The patient would sometimes be in my office within ten minutes after the accident. One man had applied a match to the gas under the boiler. A slight explosion shot the skin off his hand and wrist. He ran straight for my office, writhing in an agony of pain. I applied my dressing as promptly as I could, the time not exceeding a few minutes. The patient became quiet and sat down while I applied the roller bandage loosely and finished the dressing. The case went on in the most satisfactory manner to perfect cure in a very short time.

Many times in that prolific field of experience I applied my dressing while the patient was walking around the room, in agony and distress; and as many times have I seen him become quiet and comfortable in less than ten minutes.

This experience enabled me to select my agents and formulate my treatment. I would proceed somewhat as follows when called to a case of burn:

Apply the carbolyzed glycerin freely, cover with carded cotton and roller bandage. In a few hours the pain will begin to increase. This is indication for renewal of dressing. Remove bandage, and take off the carded cotton, now saturated with decomposing lymph, and burn up the befouled dressing. A bowl of tepid water, a fine camel's hair brush, and some good castile soap, are necessary. With a clean aseptic dressing, forceps, and scissors, remove carefully every particle of loose skin, being careful not to occasion bleeding. Now use soap, warm water, and fine brush. Then dry the part by stretching a piece of some clean, old cotton fabric (always white) and slightly pressing it on the raw surface. When properly cleansed and dried by this mopping process, apply the glycerin lotion, covering with cotton and roller bandage as before. This will be repeated several times in the twenty-four hours. Now pay some attention to the secretions. The condition of the bowels and kidneys is of paramount importance. When the urine is scant and high-colored, the skin dry and parched, the patient feverish and sleepless, a brisk dose of magnesium sulphate is followed by the happiest result. If the tongue be furred and there be a bad taste, with loss of appetite, a little mild chloride of mercury rubbed up with sugar every three or four hours previous to giving the magnesium sulphate, will soon reestablish the secretions, and restore quiet, sleep, and desire for food. Absolute cleanliness of the wound must be

maintained. Burn up all discharges and old dressings. In about three days the discharge will be less ichorous and more plastic, and probably, too, less profuse. If not so, then observe the condition of the kidneys, and the secretions generally. These corrected, the angry swelling will begin to subside. The character of the lesion is now changed, from the coagulating and antiseptic effect of the carbolic acid.

A different dressing may now be prepared and applied as per following formula:

Yellow Wax.....	1 oz.
Olive Oil.....	3 oz.

Melt the wax and heat the oil, each in a separate, clean vessel. Pour together while hot, stir continuously till cool. To each ounce of the ointment add:

Carbolic Acid.....	1 dr.
Bismuth Subnitrate.....	1 dr.
Tannin.....	2 to 4 dr.

This mixture is thoroughly incorporated with the ointment while cool, upon a pill tile with a spatula. This is an admirable preparation, both analgesic and antiseptic.

The manner of applying this mixture is a matter of the greatest importance. Cleanse the wound as before directed. Then cut patent absorbent lint into small bits, which should be about one inch wide and two inches long. Spread these pieces one at a time, with the ointment  $\frac{1}{25}$  to  $\frac{1}{12}$  inch in thickness; hold to the fire, lamp or stove, till soft and warm. After sprinkling the part freely with equal parts of tannin (dry) and bismuth subnitrate, apply the patches of ointment. Applied very warm, contrary to expectation, they impart a feeling of comfort, and soothe the patient to somnolence. Continue patch after patch till all the raw and the hyperemic parts are covered; then a layer of carded cotton, over which a roller bandage is loosely applied, allowing for possible swelling, and the dressing is finished. I insist upon this cutting the flannel or lint into small bits, as they can be most accurately applied to the irregularity of the surface of the lesion, and are also more easily removed with the forceps, without besmirching the hands with the ichorous discharge, which is apt to be very profuse for a few days. On removing the dressing I have seen the sanious effusion run down and drop off at the elbows. The free application of tannin at each dressing soon controls this feature. Exacerbation of pain is indication for renewal of dressing. Once or twice a day may not be often enough.

Under this mode of applying this unsurpassed dressing for burns, I have seen patients who had not slept for thirty hours

fall asleep before I had finished dressing the wound.

If the secretions be established, the patient is now on the way to recovery. Good surroundings, fresh air and good food assist.

Under such a mode of treatment as described I have not seen a case of burn that was not healed up inside of four weeks, while the majority would be entirely healed in from ten days to three weeks, and I have never known any drawing of the skin or disfigurement of the part to follow.

[Written for Mæzck's Archives]

## AN ESSAY ON OPIUM AND ITS ALKALOID MORPHINE, AND THEIR TRUE VALUE IN MODERN THERAPEUTICS

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OPIUM in the hands of a judicious and skilful physician exerts one of the most powerful, soothing, and beneficial effects known to the healing art; yet, in the hands of the careless, its indiscriminate use is fraught with dangers that greatly outrank the good it has done or is apt to do for mankind; and it is probably for this reason that the opinions of the medical profession so widely differ concerning its value, usefulness, and position in modern therapeutics. Eulogized to the heavens by some, and condemned to the abysses by others; being the most prominent and leading agent in one era, almost relegated to oblivion in another—its position through the mist of ages has been ill-defined, according to the mood, fancy, and progress of medical science. Wars have been fought for its maintenance and dissemination, and wars have been waged with equal zeal for its suppression and total abolition, and this because it was, and is still, considered by many to be the greatest blessing given by a Divine Providence to suffering humanity, while on the other side it has been decided as nothing less than the curse and evil of mankind itself. Thus it will be readily understood why, even nowadays, at the dawn of the twentieth century, in the light of modern scientific achievements and critical clinical researches, its real value and position in modern therapeutics still awaits clearly defined precision. This being the case, the problem that naturally confronts and forces itself upon our minds is: What is the real value and position of opium and its alkaloid morphine in modern therapeutics?

An attempt to throw some light bearing on the question is the subject of this paper. Still, before entering into a discussion of the subject, it is well, for the sake of a better

understanding and elucidation of the case in hand, to study its various components, so that from the various results of each and every one of them, we may arrive at a clear, well-defined picture whence we might draw some correct and fair conclusions. I will, therefore, divide my subject into two parts: First, a brief, historical résumé of the drug; its geographical habitat and distribution; its immense commercial value as a drug and merchandise; study of its botanical morphology; its physiological as well as chemical properties; and second, the therapeutic value of the drug and its influence upon (a) the brain and nervous system, (b) respiratory system, (c) circulatory system, (d) system of the digestive tract, (e) cutaneous system, (f) muscular system, (g) genito-urinary-system (h) when applied externally, (i) opium idiosyncrasies, (j) acute opium poisoning, (k) chronic opium poisoning or the opium habit, (l) opium in surgery, and finally (m) conclusions to be derived from the various phases.

### PART A

I. *Historical Résumé.*—The appearance of opium in the annals of our literature is as old as the history of medicine itself, and long before the age of Hippocrates (460 B.C.) and his contemporary, Diagoras, who recommended its use, its property as a powerful anodyne was a well-established and well-known fact. Theophrastus of Eresus (373-288 B.C.), a disciple of Aristotle and his successor as the head of the peripatetic school of Athens, knew and described the drug in one of his two botanical works under the name of *μηκόνιον*.

But, however, at the time of this great philosopher, it appears, only an extract of the whole plant was known and in use, and it was not until 77 A.D. that the term *δρῆς* was made use of in literature; since about this time, Dioscorides, a Greek physician and medical writer and contemporary of Nero, in his "Materia Medica," makes a distinction between the old *μηκόνιον*, which is described by him as an extract of the entire plant, and the more powerful and active *δρῆς*, meaning thereby the juice derived from the unripe capsule alone. From the first to the twelfth century of our era only the opium of Anatolia appears to have been the variety known to the commercial as well as to the scientific world; but in the twelfth century Simon Janwensis, physician to Pope Nicholas IV, makes use of the term opium thebaicum, while meconium still appears to have been in vogue. With the introduction and the spread of Islam into the valleys of the Ganges, Indus, and Bramaputhra, the spread and cultivation of the opium plant seems to have extended itself to India, since in 1516 Pyres mentions it as an indigenous product of the kingdom of Kuch Behar, southwest of Bhutan, which corresponds to the provinces of Bengal and Malwa of to-day.<sup>1</sup>

In the seventeenth century Kaempfer describes different varieties of opium, and lays stress on the ones that were prepared and flavored with spices in Persia, and that went as the best sorts of opium under the commercial name of "theriaka." During the Middle Ages this preparation was held in

great repute and probably replaced to a great extent the pure, crude drug. From India, and still by the medium of the Arabs, opium was introduced into China on or about the years 1280-'95 of our era, during the reign of Emperor Tai-Tsu. It quickly took hold, and its use and abuse attained such formidable dimensions that an imperial edict in 1368 interdicted its use and importation; but according to Saunders,<sup>2</sup> of Ghazipur, the drug seems to have been known before its introduction under the form of opium to the Chinese and held by them in great estimation as an excellent remedy for fevers, dysentery, and diarrhea.

The edict issued in 1368 had but a temporary effect. The importation of opium into the Celestial Empire continued, although on a smaller scale, by way of Nepal, through the Dutch, who bought it solely for export purposes and carried it there from India in junks. With the victory of Clive at Plassey the monopoly of opium cultivation passed from the hands of the Dutch into the hands of the East India Company. Still the trade with China remained in the hands of the Portuguese up to the year 1773, when the above-named company took also the export of the drug under their own control. From the importation of hardly 200 chests annually, the trade increased formidably until in 1790 the importation amounted to 4,054 chests, and opium smoking became such a deep-rooted habit that six years later Emperor Kea King strictly forbade its importation and enacted severe laws for the punishment of the transgressors. But in spite of all this, and notwithstanding that the death penalty was enacted, the importation continued with unrelentless vigor, so that during the decade of 1820-1830, it amounted to an annual importation of 16,877 chests. In vain did the Chinese government make representation to the British to refrain from the importation of the drug; in vain did it in 1839 through an imperial edict threaten to resort to hostile measures, until the climax came. By order of Chinese Commissioner Lin, who probably had an inkling of how the Americans dealt with the tea cargo of the British in Boston Harbor, 20,291 chests, representing a value of nearly £2,000,000, were destroyed. War broke out and was relentlessly waged until it was ended by the treaty of Nanking in 1842. By it nothing was accomplished. The importation of opium from India not only increased, but its home cultivation took on greater and greater dimensions, so that, out of the eighteen provinces of China, nine cultivate the poppy seed on a very elaborate and extensive scale. Especially is this true of the southwestern part of China, including the province of Sze-Chuen, the value of whose annual products is estimated to reach the respectable sum of 224,000 piculs, while the entire import from East India hardly reaches 100,000 piculs. This is partially due to the better care and management the Chinese now devote to the cultivation of the poppy seed, as well as the higher duties now levied upon it, and the day is seemingly not far distant when the foreign product will be entirely supplanted by the native article.

**II. Geographical Distribution.**—The original habitat of the poppy or opium plant is, according to all probability, the center of Asia Minor, but in the long run of years the cultivation of the opium plant and the collection of opium have become possible everywhere in the temperate or sub-tropical zones, especially in places where the rainfall is not excessive. From Anatolia the plant transmigrated to Persia, and from there, with the advent

and spread of Islam, it descended the valleys of the Indus and Ganges, spreading itself all over India. The Mohammedans carried the plant with them whenever and wherever they extended their conquests and the Islamic faith, because in the narcotic principle that is contained in the drug they found a most attractive substitute for alcoholic beverages, interdicted to them by their creed. For the same reason the plant soon endeared itself to the Hindoos, who with the greatest care devoted themselves to its cultivation. From India, as we have seen, the plant transmigrated to China, where it took a strong foothold, especially in the province of Sze-Chuen, where enormous quantities are cultivated and produced annually to supply the wants of the masses, as, according to Blackstone,<sup>3</sup> the opium imported from India is chiefly used by the well-to-do people. With the Arabs the opium cultivation extended itself to Egypt and the northern coast of Africa, so that to-day among the foremost opium-producing countries we have to mention India, China, Asia Minor, Persia, and Egypt. To Europe it was brought at a very early date, although it became more diffused probably by the Crusaders, who came into close contact with the civilization of the Orient, and it extended its flora at a very early date as far as the British Isles. We have seen that the Greeks had a knowledge of the plant. Hippocrates not only appreciated it for its medicinal value, but he held the poppy seed in high estimation for its nutritive value. But long before the era of Hippocrates it was cultivated by the ancient Greeks, and Father Homer even mentions it as a garden plant. The Romans employed the seeds in the preparation of various little dainties. In Europe the plant is chiefly cultivated to-day in the northern departments of France and in the southern States of Germany, mainly for the seeds, although a fair quality of opium can be produced even there. In France the value of the oil derived from the seeds amounts to 30,000,000 francs annually; according to Roux<sup>4</sup> this oil is employed as a substitute for olive oil in the manufacture of soaps, and for pharmaceutical and culinary purposes. In the United States the poppy flower was at first used only as a garden or ornamental flower, but during the latter half of the '50s attempts were made to cultivate the plant on a larger scale, with a view either of obtaining the oil or for the production of opium; but while the cultivation yielded quite gratifying results, still its cultivation on a large scale could not be carried out, owing to the high price of land and labor. Opium production only pays in countries where land is cheap and labor cheap and abundant. The first impetus to the cultivation of the poppy flower with a view of extracting opium from it was given in this country more than fifty years ago by Prof. Wood. In his medico-botanical garden, which he cultivated for the illustration of his lectures in the University of Pennsylvania, he devoted a bed to the growth of the poppy plant. The plant grew in proper season, and an incision into its capsule yielded the juice quite freely, but the smallness of the produce the amount of time, labor and expense required for the cultivation, convinced him that the plant is not suitable for agricultural purposes in the United States. Still, in the United States Agricultural Reports<sup>5</sup> for 1855 we find the following: "A variety of the common or opium poppy (*Papaver somniferum*), indigenous to the warm parts of Europe and extensively cultivated in China, . . . has been introduced, and has proved itself susceptible of easy cultivation on, very rich soils and is well adapted to the climate

of the Middle and Southern States." Thereupon a certain E. Weiss<sup>6</sup> devoted considerable attention to the cultivation of the poppy, with a view of producing opium in California. He states that the climate and soil in the vicinity of San Diego are particularly favorable to opium production. At the same time, Dr. Webster Lewis,<sup>7</sup> of Lewisburg, Pa., after many unsuccessful attempts, found a method of cultivating the opium poppy both easily and profitably, but, unfortunately, the method is not given. Then again, in 1865 P. Robertson, of Campbell County, Va., produced opium which yielded to the analysis of T. J. Graham 4 per cent. of morphine, besides narcotine. The juice was collected in the usual way from different specimens. It presented the characteristics peculiar to opium; the odor, however, was very feeble. Better results were obtained from the seeds of the white poppy by Dr. H. Black, of Bolivar, Tenn., who for several years paid special care and attention to its cultivation, and E. S. Wayne, of Cincinnati, was able to extract from specimens of it 10.2 per cent. of morphine, a percentage that almost equals that obtainable from the best quality of Smyrna opium.<sup>8</sup> Again, Dr. E. Lewis, of Topeka, Kans., cultivated the poppy in York County, Pa., and gave as his opinion that opium could be profitably produced in the latter State, and W. H. White, of South Windsor, Conn., has cultivated the poppy on a small scale in the garden, and has collected opium from the capsules. Families in Connecticut often collect opium from the garden poppies for domestic use.

In Vermont, especially in Addison County, on Lake Champlain, a Mr. Robbins, of Hancock, has cultivated the poppy flower for some years and specimens of his product have yielded as high as 15 per cent. of morphine. In 1868, Mr. Monkton raised \$3,000 worth of opium, while W. E. Wilson, of Monkton Ridge, cultivated it for five years and derived a handsome profit from the sales. Some of the Wilson specimens were examined by Procter, who found them to contain in their commercial state 6.25 per cent. of morphine, and in the dried condition 7.44 per cent., which is par with the inferior quality of Smyrna opium and below the standard for official use. Later specimens that came into possession of Prof. Procter, purporting to be from the same source, proved to be even a much inferior quality; thus, instead of 6.25 per cent., one specimen yielded only 0.90 per cent., another only 0.40 per cent., and a third one none at all. While this would tend to show the unreliability of the Vermont product, still the cultivation of the poppy is becoming quite an important industry in Vermont. On one farm in East Middlebury there are quite a number of acres under cultivation and the business extends gradually throughout the state.<sup>9</sup> In 1870 Mr. Beaudrye, of Nevato, Cal., commenced the cultivation of the poppy in that town. Specimens of opium analyzed yielded 5.75 per cent. of morphine, which, though small, is nearly equal to the average from India, while Mr. Guillardon, of Lower Lake, Cal., planted thirteen acres in poppies, both for the opium and for oil.<sup>10</sup> Dr. George W. Kennedy, of Pottsville, Pa., furnished foreign poppy seed to a friend in Illinois, who grew it there. Seed sown in wet soil failed, while that on dry ground, with good garden cultivation, grew three feet high, but many plants were imperfect. Opium obtained from the capsules yielded 8.75 per cent. of morphine.<sup>11</sup> F. T. Kron, Albemarle, N. C., has grown for about four years the opium poppy from seed imported by the Agricultural Department from Turkey. He obtained the best results from seed planted in the fall. The yield, however, has

not been thus far abundant enough to make the culture remunerative.<sup>12</sup> A specimen purporting to have been given to Prof. Maisch by T. H. Flint, of Marysville, Cal., was produced on the Sacramento River, fifteen miles from Marysville. It contained 7.75 per cent. of morphine, which is equivalent to about 10 per cent. of the perfectly dried opium; yet the expense of its cultivation and collection was so high that no commercial returns could be expected from its introduction as an article of agriculture.<sup>13</sup> During the year 1885 Emil Weschke experimented in the cultivation of opium at New Ulm, Minn. The opium, which in the air-dry condition contained 2.8 per cent. of moisture, after drying yielded 15.23 per cent. morphine. The author does not believe that the cultivation of the poppy for the production of opium in this country would be attended with profit.<sup>14</sup> Thus it can be readily seen that from experiments which have been made in several of the states, it is evident that opium of a fairly good and even fine quality can be produced in the United States. The plant matures sufficiently for gathering its opium in from ninety to 100 days, but, as has been shown, the expense inherent precludes its cultivation on an extensive scale. In Jefferson County, N. Y., the time for sowing is from May 5 to 20. There one-fourth acre planted with poppy produced twenty-seven pounds of opium in four years, equal to one crop of twenty-seven pounds to the acre. Specimens of this opium were sent to New York for analysis and the percentage of morphine was found to be equal to the best imported.

From the foregoing we can easily see that the opium culture has better prospects for success in the northern states than in the southern, in spite of the prevailing idea that a warm climate is necessary for the development of the narcotic principle—an idea that is not supported by facts, inasmuch as Guibourt<sup>15</sup> has shown that the opium of Anatolia is richer in morphine than that which has been grown in upper Egypt, or even in the more southern province of Bengal, while again M. Bussy<sup>16</sup> proved conclusively that the best Smyrna opium but rarely yields 12 per cent. of morphine. On the other hand, that which has been grown in the north of France easily yields 20 to 24 per cent. of the alkaloid.

The habitat of the poppy seed not only extended itself to the United States, but even in Australia for the last ten years successful experiments have been carried on in the neighborhood of Melbourne, near Bairnes Dale in Gippsland, and at Dromana on Port Phillip Bay. While the first attempts only yielded about 2 per cent. of morphine, later cultivation proved capable of yielding 4 and even 10 per cent. of the alkaloid. In Africa, besides Egypt and the northern coast of the continent, the cultivation of the poppy seed was tried with no mean success in Mozambique, where, since 1877, a company was established with a grant of 50,000 acres of land and many exclusive privileges. The company began its operations in 1879 between the Mulo and Quaqua Rivers at Chaima. The seed used was imported from Malwa. The plants thrived well and the capsules became larger than in India. The collection takes place seventy-five days after the seed has been sown. In 1884 the first specimens appeared on the London market in the form of spherical balls, having the size and general appearance of genuine Malwa opium, ready to compete with the original in the Chinese market.

To recapitulate: Opium is at present grown and cultivated in Asia Minor, Persia, East India, and southwestern China. In Europe, since 1865,

it has been extensively grown in Macedonia, where its cultivation was begun at Istip with seed obtained from Karahissar in Anatolia, and has now spread to the districts of Kotchava, Stroumitza, Tikovich, and Kinprulu-veles. The crops of 1882 amounted to 135,000 pounds. The Macedonian opium, especially that hailing from the district of Istip, is renowned for its purity and is capable of yielding 11 per cent. of morphine; in quality it equals the best product of Malatia. Bulgaria, of late, has also begun to grow opium, but only for home use. If any surplus is left it is bought by the Jews and Turks at a nominal price and sent to Constantinople, whence it is brought back and sold as genuine Turkish opium. The best districts for its cultivation there are: Kustendil, Lowtscha, and Halitz. They yield a product containing 7 to 19 per cent. of morphine, and only 2 to 3 per cent. of ash, according to the analysis of Herr Theegarten. Experiments have also been carried on not only in England, Scotland, France, Germany, Italy, Switzerland, Greece, and Spain, but its cultivation was carried on in Europe even as far north as Sweden, and proved that opium as rich in morphine as that from the Orient can remuneratively be produced in the old world.

III. *Commerce*.—It is but natural that a produce which has a widely distributed geographical habitat and whose mode of cultivation, production, and collection so widely differs, should present characteristics which in themselves are peculiar to the variety of the country that produced them; therefore, a number of varieties of opium exist in commerce, differing not only in certain qualities, but also to a certain degree in external character. Usually they figure under the names of the districts where they are prepared for export purposes, but more generally under the name of the port from which they are shipped. Thus, "Constantinople opium" does not apply to opium grown in or around Constantinople, but it designates opium hailing from Angora, Bogadiz, Balukhissar, Beybazar, Gheve, Karahissar, Sahib, Kutchaya, Kurkagatsch, Malatia, and Tokat, as well as the Macedonian opium from Salonica, while "Smyrna opium" comprises opium from Afium Karahissar, Akhissar, Bulladan Hamid, Isbarita, Koniye, Magnesia, Ushak, Tanshauil, and Yerli. The latter term, "Yerli," is equivalent to our English word "nearby," and serves to indicate the opium that is grown in or nearby Smyrna.

The Indian opium is known chiefly under the names Patna, Malwa, Benares, and so on. In commerce, especially in the English export trade, opium is divided as follows: (a) shipping opium, (b) druggists' opium, (c) manufacturers' opium. (a) Shipping opium includes varieties of a pale or yellowish color internally, of a soft consistency, and free from poppy débris or "chaff," as it is technically called. This kind of opium offers a large amount of extract and leaves but little insoluble residue when dissolved in water. For this reason this quality is sought for in countries where opium eating or smoking has become a habit. The principal varieties used for this purpose are Malatia, Kharput, Tokat, Salonica, Balukhissar, Kurkagatsch, Bogadiz, as well as the finest and choicest qualities of Angora and Yerli. They are exported in enormous quantities and find a ready market chiefly in China, Peru, the West Indies, British Guiana, and Brazil. The United States buy the same kind of opium, but only to reship it.

(b) Druggists' opium, which is of interest to us, includes the varieties purchased for medicinal purposes only in Europe and the United States. It

is of a somewhat finer consistency, darker in color, and is constituted of the finer varieties of Beybazar, Yerli, Karahissar, Adet, Amasia, and Akhissar. "Current" Smyrna and Angora, Ushak, Yerli, and Karhissar opium is bought mainly for the American market, while the Ghevé or Ysmid opium goes chiefly to the continent.

(c) Manufacturers' opium is made up only of "chicanti"; that is to say, the lowest and cheapest of all varieties of opium. It is bought by the chemical manufacturers for the extraction and manufacture of morphine only. The amount of crude opium imported by the United States in 1872 amounted to 189,354 pounds; in 1880, 243,211 pounds were imported, jumping to 471,276 in 1886, and it attained the respectable figure of 568,263 in 1887. The price per pound rose from \$2.50 in 1886 to \$4.75 in 1887, and commanded a still higher figure in 1888. The chief port for the importation of smoking opium in the United States is San Francisco, where the want of the Chinese population is supplied. The importation of smoking opium in the United States since 1872 has attained quite a considerable figure, as it then amounted to 49,375 pounds, and rose to 77,106 pounds in 1880; but on account of the duty, which was raised from \$6 to \$10 per pound in 1883, the importation fell to 46,207 pounds, in 1886, to rise again to 66,232 in 1887 in spite of the heavy taxation. Besides, there is a justified suspicion that the former amount is fully made up, if not increased, by smuggling.

IV. *Adulterations of Opium*.—A drug that is so high-priced, so sought for, and whose enormous production never meets the demand for it, naturally lays itself open to adulteration for mercenary purposes, and oftentimes so skilfully are these adulterations executed that their manipulations almost amount to an art; so much so, that without analytical research even the eyes of an expert may be deluded. The substances most commonly used to adulterate opium are grape juice, thickened with flour, fig paste, licorice, half-dried apricots, inferior gum tragacanth, clay, pieces of lead and iron; even small stones, sand, ashes, and the seeds of various other plants are made use of. French authorities are replete with accounts of the extensive frauds that are perpetrated in this branch of commerce alone in the port of Marseilles. Such adulterated opium is usually deficient in its active principle of morphine. Prof. Aiken examined such a specimen and found it contained only 1.10 per cent. of morphine; other specimens did not contain it at all, the genuine drug having been deprived of its morphine by some ingenious method, while externally no material difference in its appearance could be noted.

V. *Properties of Good Opium*.—Having seen how manifold the adulterations of opium can be, the next thing in order is to become acquainted with the properties of the unadulterated drug, so that by thoroughly understanding them we may more easily detect the adulterated quality. A good quality of opium must possess a peculiar, strong, narcotic odor. It must impart a bitter and at the same time a somewhat acrid taste. Chewed for a long time, it irritates the lips and tongue, often even blistering them in those who are unaccustomed to the use of the drug. The color varies from red-brown to deep fawn. In texture it is compact, showing a specific gravity of 1.336. Drawn over paper it must leave an uninterrupted line of a light-brown color. The interior of the mass is soft and tenacious, but on being exposed to the air it gradually becomes harder, so that when it is broken in this state it must show a

shining fracture, be brittle in character, and when pulverized yield a brown colored powder that becomes adhesive at a slight elevation of temperature. It must be easily inflammable and yield its virtues promptly to water, alcohol, and diluted acids, but not to ether. Its solution in any kind of menstruum must be of a dark-brown color. Opium, on the other hand, is regarded as being of an inferior grade when it is blackish in color, when it possesses a weak or empyreumatic smell, a sweetish or slightly bitter and nauseous taste, and when it is of a greasy, soft or viscid consistency, and when on breaking it presents instead of a shining, a dull fracture, indicative of an irregular, heterogeneous texture, due to adulteration with foreign substances. To the saliva it does not impart a deep-brown color, nor does it leave, when drawn over paper, an uninterrupted line; nor does it form, when dissolved in water, a thick, viscid solution.

In studying the question of drug adulteration, I had occasion to examine and test several hundred samples of crude opium bought in the open market, and from personal experience I can say that at least 60 per cent. of the drug thus obtained was entirely condemnable from a medicinal and pharmaceutical standpoint. Furthermore, no two samples were even approximately of the same strength. Viewed in this light, what I have said of opium will equally well apply to any drug such as digitalis, strophanthus, cannabis indica, or others. One can readily understand how it came to be that 1 drop of laudanum proved fatal, as there is such a case on record, while in another instance a 15-minim to 1-dram dose remained perfectly inert and devoid of any physiological action. A physician coming across such phenomena will stand first in amazement, then without afterthought he will strike off the drug from his armamentarium; he will dismiss it as either unsafe or unreliable. Barring individual idiosyncrasies, which here and there are occasionally met with, every physician has a right to expect from the drug he prescribes the physiological action he is looking for, and he will get it, too, provided the drug is unadulterated and prepared according to the official standard.

Armed with pure and standard drugs, we have at our command the invincible powers of Nature herself. With adulterated drugs not only are we powerless, but in prescribing them we make ourselves accessories of crime, because it is a crime perpetrated on ourselves and on the patient who comes to us, confidently placing his welfare, his life in our hands to relieve him of his sufferings, to give him a drug from which he expects much good and derives often, to say the best, great harm. The druggist in selling his medicines, in filling the doctor's prescriptions, must ever have before his mind this fact: that in dispensing the pure, unadulterated drug he is ordered by the prescription to fill, he is not dealing with drugs alone, but that through the doctor he deals with human life.

VI. *Botanical Morphology of Opium.*—Opium is nowadays derived from the various plants belonging to the family of the *Papaveraceae*. Its original source is believed by many to have been the species known as *Papaver orientale*. Our own Pharmacopœia, as well as the British and French, only recognizes the opium derived from *Papaver somniferum*. This species, as well as the former, belongs, according to the sexual system, to the *Polyandria Monogynia* of the natural order of the *Papaveraceae*. Its general characteristics consist of a four-petaled corolla, a two-leaved calyx, and a one-celled capsule. This capsule opens by pores

under the persistent stigma. Even of *Papaver somniferum* there are quite a number of varieties, but only two of these varieties merit any special mention, to wit: the white and the black poppy. They derive their names from the color of their respective seeds. The black poppy is considered as the real opium plant. The white poppy is an annual plant with a roundish, smooth, erect, glaucous, often branching stem, usually rising two or three feet in height; but, placed in favorable situations, a height of from five to six feet has frequently been attained. The leaves of the poppy plant are variously lobed and toothed. On the stem they are alternately disposed, embracing the same closely. The flowers are terminal, very large and white, or of a silvery grayish color. Their appearance varies according to the variety and latitude wherein they are planted; thus, they appear in Europe as well as in the United States as late as June or August, while in India they show themselves as early as February. The calyx is smooth and composed of two leaves, which fall off when the petals expand. These are four in number, but in some varieties there may be as many as eight in existence. The germen, which is smooth and globular, supports a radiated stigma and is surrounded by numerous short, slender filaments with erect, oblong, compressed anthers. The capsule is smooth and glaucous, rounded in form, and from two to four inches in diameter, somewhat flattened at the top and bottom, and crowned with a persistent stigma, the diverging segments of which are circularly arranged upon the summit; it contains numerous minute white seeds which, when perfectly ripe, escape through the small openings beneath the stigma. In the black poppy the flower, though sometimes white, is usually violet or red in color, the capsule is somewhat smaller, but more globular, and the seed therein of a brown or blackish color. The poppy that is cultivated in Anatolia is the variety known under the name *P. S. glabrum*, Boissier; it distinguishes itself by the subglobula, by the shape of its capsule, and by the rays or stigmata at the top of the fruit, being ten or twelve in number. The flowers are usually of a purplish color, but not in rare instances they are also white, while the seeds, like the petals, vary in their tints from white to dark violet. The variety of poppy grown in Persia appears to be *Papaver somniferum* var. *album* (*P. officinale*, Gm.), having roundish ovate capsules. The same variety is generally met with in India, only that in the region of the Himalayas a red-flowered variety with black seeds is encountered. There is in East India also a variety having double purple or nearly black flowers, but in all these varieties of the poppy all parts of the plant contain a white, opaque narcotic juice; but the leaves analyzed by Blondeau, yielded none of the active principles by which opium is characterized. It is in the capsule that the juice mostly abounds and the virtues of the plant chiefly reside, hence this part is sometimes employed for medicinal purposes, while the seeds, devoid of the narcotic elements of the plant, are chiefly used for the expression of a bland oil which they abundantly contain, or are used as a food. In Persia the entire young plant is often pulled out to prevent a too thick crop, and used up as a food in the form of pot herbs.

VII.—*Chemical Properties.*—That a plant that has such a wide range of usefulness should attract the attention of the chemists is not to be wondered at, and, as a matter of fact, since the dawn of our present century our best and most eminent physiological chemists have devoted special care and attention to the study of this most

marvelous plant. To the indefatigable researches of these pioneers in the field of physiological chemistry the medical world owes a great deal of gratitude, as their investigations into the nature of the poppy plant carried them to the discovery of those vegetable alkaloids which have proven to be the active principles of the plants wherein they are found, and that since have had such a remarkable success in the treatment of disease. The honor and the credit of having been the pathfinder of this new era of investigation belongs to the apothecary Sertürner at Einbeck, in the province of Hanover, Germany. The seed sown by Sertürner fell upon fruitful soil, and thus, in 1803, Derosne announced to the scientific world his discovery of a crystalline body that he obtained from opium and which he called the "salt of opium," believing it to be the active principle of the drug. But such was not the case, as was later demonstrated by Robiquet. In 1804 Seguin isolated another crystalline body, which time and experience have proven to be the real narcotic principle of opium. But Seguin did not realize the importance of his discovery, only considering it as a mere scientific curiosity, which however, attracted but little attention. Thus the matter remained quiescent until in 1817 Sertürner again proclaimed the existence of a saline compound in opium, endowed with a peculiar alkaline principle and united to a peculiar acid, thus clearly demonstrating the real nature of the substance discovered by Seguin and himself a little over a decade before. This salt, destined to play an important rôle in modern therapeutics, he called "morphium."

But before I enter into a detailed description of this most important and only one of the alkaloids of opium we will have to deal with in this paper, let us see what the other chemical constituents and properties of opium are. Besides morphine, which exists in opium with sulphuric and meconic acid, there is also to be found in it a certain amount of lactic acid; but this is held by many chemists to be only an accidental constituent originating during or subsequent to the process of the collection of the juice. In the course of time several other basic substances have been isolated from different varieties of opium, but their amount rarely exceeds 1 per cent. Among these is to be named the oldest alkaloid, the one that was discovered in 1803 by Derosne and named by Robiquet narcotine, a name which it still retains. It exists in amounts varying from 2 to 4 per cent. Then narceine, codeine, thebaine, papaverine, meconin, cryptopine, meconidin, hydrocotarnine, laudanoline, protopine, laudanine; also a few other bodies of a feebly alkaline or neutral nature, as lanthopine, etc. Besides, there are several derivatives. The most important so far is derived from morphine and called apomorphine. All of the organic bases of opium produce a deviation of the plane of polarization to the left. Opium contains, besides, in no mean amounts, several resinoid bodies. Furthermore, it exhibits a variable amount of mucilage, a gum distinct from the ordinary gum-arabic. It also contains pectin, albumen, and a waxy material consisting chiefly of palmitate and cerotate of cerotyl; also calcareous salts in amounts varying from 4 to 8 per cent. Not infrequently sugar is also found in opium, but the question yet awaits solution whether this is due to a natural state of the opium or whether it forms part of the adulteration of the drug. The amount of mucilage present influences the value of opium for smoking purposes a good deal, since the Chinese estimate its value roughly by the mere "touch"; that is to say, they gauge it by the

rapidity or slowness with which a thread drawn out from the mass will break by its own weight. These are the principal chemical constituents of opium, of which morphine and codeine are quite extensively used in medicine, while narceine has found favor with a few physicians. Narcotine itself is practically never used; but a derivative of it, cotarnine, is very much used at present as a hemostatic. Its hydrochlorate is known as stypticin, and is employed extensively in menorrhagia, metrorrhagia, subinvolution, hemoptysis, etc. Its (stypticin's) dose is from  $\frac{3}{4}$  to 2 grm., and it may be given in pill form, in solution, or hypodermically.

VIII.—*Tests for Opium.*—In medicine, especially in forensic medicine, it is often of the highest importance to show or produce in evidence the presence or absence of opium or morphine in a given substance or mixture. The main test is based upon the knowledge that either morphine or meconic acid is to be found only in the products of the poppy plant, so that demonstrating the presence of one or both of these components in a given substance would constitute strong evidence in behalf of the existence of opium. From the aforesaid, it can be readily understood that our aim in testing must be directed to the detection of one or both of these constituents of opium. To that end take an aqueous solution of the substance to be examined, treat it with tincture of ferric chloride, and if this imparts to the liquid a red color this is presumptive evidence of the presence of meconic acid, and in that liquid we have to demonstrate yet the presence of morphine. To this end, take the above solution, filter, and then add in excess a solution of lead acetate. Should there be opium present, there will be formed a precipitate of meconate of lead while the acetates of lead and morphine will remain in solution. Suspend the precipitate in water and decompose it, either by adding to it a little diluted sulphuric acid, thus forming lead sulphate and leaving the meconic acid in solution, or pass through it a stream of sulphuretted hydrogen. The precipitated lead sulphide is then removed by filtering, while the excess of sulphuretted hydrogen can be gotten rid of by gently heating the clear liquid. With the entirely clear liquid thus obtained, the tincture of iron chloride will produce, should there be meconic acid present, a striking red color, while ammoniated copper sulphate will produce a green precipitate; and again, barium chloride as well as lead acetate and silver nitrate will produce white precipitates, all of which are soluble in nitric acid. Now the sulphocyanide of potassium, which, according to Dr. Wright, is a constant constituent of saliva, produces also with the ferric salts a red color, closely resembling that imparted by meconic acid; but a solution of corrosive sublimate would destroy completely the former, while the latter will remain unaltered by it at all. Furthermore, gold chloride imparts a red color to hydrosulphocyanic acid or to sulphocyanide, while meconic acid would not be affected at all. Now, in order to establish the presence of morphine, take the clear liquid which has been freed from lead in one of the above named ways and treat it with the following reagents: (a) By adding nitric acid to the solution, should there be morphine present, the liquid will assume a red color; (b) by iodic acid, which is decomposed by morphine, setting iodine free and imparting to the liquid a reddish-brown color; in the presence of starch it will form with it a blue amydo compound; (c) by the careful addition of ammonia so as to avoid excess a precipitate of morphine will be yielded that is soluble in either



a great excess of ammonia or potassa. Finally (d), by tannic acid precipitating morphine tannate. If the precipitate produced with ammonia yields a deep red color, turning yellow when treated with nitric acid, or yields a blue color with ferric chloride, the chain of evidence as to the presence of both meconic acid and morphine is fully established.

[While the above tests furnish fairly conclusive evidence of the presence of opium, still in a court of law, where it is a matter of life and death, they would be insufficient to procure a conviction. To be absolutely certain of the presence of opium in a mixture, the meconic acid and morphine must first be *isolated* and *purified*, and then only may the results obtained with the proper tests furnish conclusive evidence. Color tests by themselves are rarely positive and unimpeachable.—EDITOR.]

IX.—*Opium Incompatibilities.*—Opium and its alkaloids are incompatible:

(a) With all vegetables containing either *tannic* or *gallic* acid, because these acids precipitate it and form with it an insoluble compound.

(b) With any or all of the alkalies, because they separate and precipitate the active principles of it.

Morphine.  $C_{17}H_{19}NO_3 + H_2O$ , in its pure state forms colorless prisms of a silvery luster that have an alkaline reaction and which are bitter to the taste. It combines readily with acids to form its various morphine salts, the majority of which are soluble in water. It is soluble at  $15^{\circ}C$ . in about 5,000 parts of water, 4,000 of ether; 36 parts of boiling and 300 of cold alcohol, and 500 of boiling water. In chloroform it is but to a very limited degree soluble. It is furthermore soluble in the fixed as well as in the volatile oils and in the solution of the fixed caustic alkalies, but in caustic ammonia its solubility is very slight. Treated with nitric acid it imparts to the solution a red color that passes into yellow; with the test solution of ferric chloride a blue color is imparted that can be obliterated by free acids as well as by alcohol, while with sulphuric acid and potassium bichromate it forms a greenish, but never a purplish or violet color. Heated in the open air, it burns quickly, whereby a portion of it becomes volatilized. In medicine the hydrochlorate, sulphate, and acetate of morphine are chiefly used, and of late Erskine Stuart has recommended the tartrate of morphine, inasmuch as it is more soluble than any of the other morphine salts and because a more concentrated solution can be administered than is the case with any of its salts. It is therefore better adapted for hypodermatic uses. Heated in a sealed tube with hydrochloric acid, morphine is decomposed, and water and a new derivative of it called "apomorphine,"  $C_{17}H_{17}NO_2$ , are formed. This is a valuable adjunct to our materia medica, as it is one of the most powerful, speedy, and reliable emetics known to the healing art, and therefore paramount in the treatment of accidental poisonings to rid the stomach within the shortest possible time, by hypodermatic administration, of its injurious contents. In very minute doses ( $\frac{1}{100}$  to  $\frac{1}{10}$  grn.) it has proven to be a very valuable expectorant; it is soluble in ether, in 50 parts of alcohol, as well as in 68 parts of water, but the solution very readily decomposes, assuming a greenish color, therefore it should be always freshly prepared when used for medicinal purposes.

X.—*Physiological Action of Opium and Morphine.*—We come now to the consideration of the physiological action that opium and its alkaloid, morphine, exert upon the system. Opium, as will

be seen later on, enjoys the greatest latitude and affords the widest range of applicability of any drug in the Pharmacopœia, and this justly, because it is not only an anodyne par excellence, but it is also a valuable hypnotic and narcotic as well, a fact that can be claimed for no other drug in the materia medica. It is an anodyne because it speedily relieves pain, and the relief of pain is the keynote of its value and usefulness.

The power of opium to allay pain has commended itself to the patient and has kept the personality of the physician in high regard—aye, veneration—since time immemorial before the eyes of suffering humanity. As regards its physiological action, opium varies not only according to the preparation given, amount administered, and the purposes and the conditions and the surroundings under which it is given, but in age and sex, children and the aged being more susceptible than adults to its action, and females becoming speedier victims to its evil influences than males. It also vastly differs in its mode of action in disease and health. In health small doses of opium produce a mild stimulating effect. This is probably due to an increase in the arterial pressure; but to this there are many exceptions. It is recorded by literature, and particularly by De Quincey, that a period of great exhilaration exists which soon gives way to a state of buoyancy which is simply delightful, rendering the individual unmindful of his pains, cares, and anxieties, which all by degrees soon become lost in sleep and unconsciousness. But these statements are not borne out by clinical experiences at the bedside. I have had occasion to study and watch the effects of opium in many hundreds of cases, and I failed to find any stage of exhilaration in 99.8 per cent. of cases. When such a condition is claimed to exist by a patient it is due to an aberration of his mind, and I can prognosticate with a large degree of certainty that such patients will fall ready victims to the drug habit; if the habit is not already contracted, all my endeavors are directed, no matter how urgent the symptoms which call for opium, *not* to exhibit it to the patient if possible. On the contrary, I have observed that the drug in 15 per cent. of my cases was apt, immediately after the administration, to produce a state of malaise followed by drowsiness. After the first symptoms have subsided, usually there is an awakening, followed by headache, due to venous congestion, constipation, and not seldom this is complicated by nausea and even attempts at vomiting, due probably to reflex irritation. Opium has no uniform effect upon the pulse. In one group of individuals the pulse becomes slower and steadier; in another group it exhibits a quickening effect, while in still others there is hardly any perceptible alteration in its volume, tone, and rapidity. But this condition is markedly altered in disease. There, under pathological conditions, with nervous excitement and pain as paramount features, in the majority of cases it steadies an irregular pulse and strengthens a weak one to a remarkable extent. In acute inflammations, for instance, the pulse is rapid and the pain exquisitely intense. By giving opium to the patient you not only relieve the pain, but the effect on the vasomotor centers is such as to control the supply of blood to the inflamed area better than if pain were present. In large doses opium produces insensibility, and here, too, the state of exhilaration is absolutely absent.

I have studied minutely the time that elapses between the administration of opium and the production of its hypnotic effect, and have found it to be a very difficult task to determine accurately.



Out of 1,248 cases that I studied, 543 were men and 705 women, ranging between the ages of 6 months and 78 years. In about 75 per cent. of all cases sleep was produced inside of thirty minutes; in 24.3 per cent. in fifteen minutes, and in less than 1 per cent. (0.7 per cent.) no sleep at all. The shortest time required to obtain sleep was eight minutes in a girl of seven years, and the longest time forty-seven minutes, in a laborer thirty-eight years old. Contrary to these cases, I have observed a marked stimulation characterized not only by wakefulness but by a certain degree of talkativeness on the part of the patient. Eight patients exhibited this phenomenon, six of whom were women. Wherever this predisposition is shown you can also anticipate the predisposition of the patient to contract the opium or morphine habit; but where the duration of sleep is prolonged to eight or ten hours, it is apt to be followed by a marked degree of depression and a train of unpleasant after-effects, such as headache, coating of the tongue, constipation and nausea. These effects are the more likely to occur when opium does not produce stimulation and coma vigil makes itself felt. Opium has been and still is one of the principal agents for the production of sleep. With the discovery and production of the coal-tar products these agents seemed for a time to supplant the usefulness of opium as a hypnotic; but now, as their true depressant and weakening effects are thoroughly understood and appreciated, many an eminent and good observer falls back on the old-fashioned and time-honored remedy, opium. True, it has many unpleasant after-effects, and its indiscriminate exhibition is not desirable in each and every case where the production of sleep is desirable; but its great indication is where loss of sleep is attributable to the gravity of the co-existent pain; thus, in various forms of the neuralgias dependent upon inflammation and disturbances of the nervous system, these conditions, in conjunction with pain, open for opium a wide field in which to exhibit its beneficial influence. Its power to diminish or check the secretions is taken advantage of in all extensive or profuse morbid processes, but conjoined with an expectorant it improves and stimulates the secretions of the skin. Taken in doses not adequate to produce the full narcotic or even soporific effect, sleep is not only retarded but is of such a dreamy type that on awakening patients are fain to admit having slept at all. In toxic doses the pulse becomes slower and slower in frequency if not in volume; the muscular strength fails; a sense of languor and drowsiness sets in, which rapidly merges into a deep apoplectic stupor. These phenomena will be dwelt upon further in the discussion upon acute opium poisoning.

Morphine differs but slightly in its properties. It is less stimulating and does not produce the full diaphoretic action, but it causes less headache, less nausea, and still less constipation; while used hypodermically its full physiological action is more rapid and its dosage is in a marked degree a lesser one.

(TO BE CONTINUED.)

**MORPHINOMANIA.**—Without the patient's knowledge, the morphine is to be withdrawn absolutely, and dionin, in doses of  $\frac{1}{4}$  to 1 grn., is to be injected instead; or it may be given internally, as follows: Dionin, 12 grn.; bitter almond water, 3 oz. One to two teaspoonfuls several times a day.

## TREATMENT OF PNEUMONIA<sup>1</sup>

By W. L. Heath, M.D.

AFTER discussing the pathology of pneumonia, the author summarizes the treatment substantially as follows: Patient should be placed in bed in a well-ventilated room with a temperature of about 65° F., should be wrapped in a cotton jacket, and rubbed with some counter-irritant, such as turpentine or mustard. An ordinary amount of liquid food should be given, but overfeeding must be guarded against. Water in abundance is useful, as it favors elimination from the skin and kidneys. Calomel should be given, as it absorbs exudation, inhibits the activity of the germs, and is supposed to have an antiseptic effect on the blood. Quinine may also be given, both for its antiseptic and antipyretic action. Creosote is supposed by some to be specific for the disease and should be given if the stomach will bear it. Combined with chloroform it is very useful as an inhalation. Chloroform by itself is very useful in the strong and robust, and when used by inhalation seems to have a controlling effect on the exudate, rendering it an unfit medium for the pneumococcus, which, as experiment shows, is very sensitive to chloroform. We may also make use of chloroform in connection with oxygen by putting 1 or 2 drams into the water contained in the wash-bottle. Aside from the action upon the germs the chloroform allays pain, quiets the nerves and promotes sleep. Although authorities say that pneumonia is a self-limited disease, not influenced by medicine or treatment, it does seem that the disease can be cut short or limited by careful and judicious treatment in the right time. The author has seen a large, robust man with every symptom of pneumonia in the first stage relieved by blood-letting, and in a few days convalescence set in. It seems that in the robust we are justified in using our lancets, when the arteries and veins are very much distended. It must be done early. The effect in blood-letting in mild cases may be obtained by drawing the blood from the veins and storing it up in the arteries. This may be done by drugs that have the power of relaxing the arterial system. Aconite has that power and is a safe drug to be used at this time. Nitroglycerin will have a prompt action and is said to be very effective, but personally the author has had no experience with its use. Oxygen is a very useful remedy, but its use should not be deferred until too late. Many apparently hopeless cases have recovered when treated with oxygen. To combat

<sup>1</sup> *Vermont Med. Monthly*, VII, No. 1.

the toxemia already in the system we have as yet no direct means. Serum therapy is suggested, but as yet it is in its infancy; we must depend upon the emunctories, the skin, kidneys and the intestinal glands.

Calomel should be given for its effect upon the bowels as well as its absorptive effect. Potassium iodide combined with the infusion of digitalis should be given for its diuretic action. Potassium iodide also has a beneficial effect on the bronchial secretions.

Spirit of nitrous ether is also useful, as it produces diaphoresis and is a good diuretic. Strychnine is the best heart supporter, and in  $\frac{1}{60}$ - to  $\frac{1}{30}$ -grm. doses given every four hours has no equal. Strophanthus and caffeine, the latter in the form of a strong coffee, are very effective at times. In all cases with asthenic tendency, alcohol in the form of brandy or whiskey should be given early, and increased until the downward tendency is checked. It is a great mistake not to give alcohol in some form and ordinarily in very large doses; it is a fact that no intoxication is produced by the same amount that would be disastrous in a state of health.

Guaiacol combined with hypophosphites should be given early in convalescence. To relieve the cough, codeine or heroin should be used combined with ammonium chloride or carbonate. Steam inhalations are also very useful and comforting to the patient. To reduce the temperature, the application of cold is a common practice in hospitals, but in private practice it should not be used unless in very serious cases, when all other means fail. Phenacetin or acetanilid acts very quickly, and danger with either is small if used with care and in small doses. Three grains of acetanilid with the same amount of Tully's powder is a very useful combination. To relieve the pain, morphine is the most reliable drug, but caution should be exercised in administering it.

**A CASE OF POISONING BY PICRIC ACID.**  
—J. Winterberg<sup>1</sup> reports the case of a woman, of twenty-three, who drank 25 Gm. of commercial picric acid in solution. Bloody vomiting and profuse diarrhea followed immediately, and two hours later the entire skin, the nails, and cornea showed an intense yellow color. Consciousness was unimpaired. Other symptoms were pains in the stomach, weakness, headache, leucocytosis. Picric acid was present in urine and feces. The stomach was repeatedly washed out. The patient was well by the ninth day, but the yellow coloring persisted for five weeks.

## THE TRUE ROLE OF DRUGS IN THE TREATMENT OF PULMONARY TUBERCULOSIS<sup>1</sup>

By Solomon Solis-Cohen, M.D.

AFTER emphasizing that hygiene and sanitary conditions are of paramount importance in the treatment of tuberculosis, the author states that drugs are necessary and useful as adjuncts to the hygienic treatment, and he finds their special indication in the treatment of particular symptoms or morbid phenomena. He divides the drugs useful or necessary in the treatment of phthisis into nervines, digestants, hematinics, eliminants, circulatory agents, and special antitubercular remedies, which are subdivided into the iodine group, the creosote group, the balsamics, terebinthates, and inhalants. Remedies are also classified for the treatment of fever, hemorrhage, night-sweats and diarrhea. Among the nervine tonics the author places arsenic, strychnine, cod-liver oil, hypophosphites, and other preparations containing phosphorus, among which are probably to be included the nuclein groups and thymus-gland extract. Strychnine should be given at first in small doses, but may occasionally, though for limited periods only, be increased to very large doses. Cod-liver oil seems to be particularly suitable as a food to the nervous system. The rationale of the action of arsenic is not known, but it is a nerve tonic of the first rank. These drugs are especially useful in the first stages; their usefulness in the later stages is much less apparent, except when an arrest or a recession of the morbid phenomena seems to have taken place.

Digestants in tuberculosis are useful because they increase the general nutrition, and here arsenic and strychnine are again indicated. Other valuable drugs and measures are the gastro-intestinal antiseptics, sedatives and stimulants; phosphoric, hydrochloric and nitric acids; pepsin, pancreatin, diastase, and papain, and lavage or the drinking of hot water. As hematinics the following have proved useful: Arsenic, iron, gold and sodium chloride, palladium chloride, the nucleins, bone-marrow, etc. It is, of course, necessary that the eliminative functions should be kept in perfect condition. For this purpose bathing and sponging as hygienic measures, and sparteine and cascara sagrada, used occasionally when indicated, are very useful.

The circulation of the consumptive needs special study. Two drugs are especially useful; nitroglycerin in the early stages and

<sup>1</sup> *Wien. med. Presse*, 1900.

<sup>1</sup> *Jour. Amer. Med. Assoc.*, xxxvi, p. 482.

digitalis in the acute manifestations of the tertiary stage. Nitroglycerin by relaxing the peripheral vessels, both in the systemic and pulmonary circulations, permits the work of the heart to be performed better and with less expenditure of vital energy. Digitalis is especially useful in cases of galloping consumption, with high fever and rapid pulse. The author has frequently seen remarkable reduction of fever and of the accompanying groups of hectic phenomena follow the administration of large doses of digitalis; but it must be given continuously and fearlessly, up to the point of tolerance, the only counterindication being evidence of gastric disturbance. In such cases digitalin-German (Merck) may be used in place of the digitalis, the dose being from  $\frac{1}{24}$  to  $\frac{1}{8}$  or even more [it is now frequently given in  $\frac{1}{4}$ - to  $\frac{1}{2}$ -grn. doses] three times daily.

Of the direct antitubercular agents the iodine group and the creosote group have stood the test of time. The first group is applicable to the very early stages, the second to the later stages. The most useful agent of the iodine group is iodoform, which in order to be effective must be given in comparatively large doses and over long periods. But the dose must be very small in the beginning and then increased gradually to the point of tolerance. Beginning with  $\frac{1}{2}$  grn. of iodoform three times daily after meals, the dose may be increased little by little until in the course of two or three months it reaches 5 grn. three times daily. A favorite formula with the author is:

Iodoform .....	1 to 3 grn.
Strychnine Sulphate .....	$\frac{1}{40}$ grn.
Arsenic Iodide .....	$\frac{1}{11}$ grn.
Balsam Peru .....	2 to 5 grn.

For one capsule. One such capsule three times a day after meals.

Sometimes he uses ichthyol in conjunction with or instead of the balsam of Peru. Ichthyol itself is also recommended in doses of 5 grn. or more thrice daily. Crude or refined petroleum may also be used. The inunction method—a mixture of iodoform with cod-liver oil or wool-fat—has been recommended by some, but the author's experience has not been extensive in this line, and the method did not seem to him to possess any advantage over the internal administration of iodoform. A solution of iodoform in sterilized olive oil, 1 in 10, may be given by intratracheal injections, in doses not to exceed 30 min. In tubercular laryngitis iodoform may be insufflated into the larynx, or a 10-per-cent. solution of the drug in ether may be applied by means of a sponge, after the application of lactic acid or formaldehyde. Other available preparations of iodine are Lugol's solution, arsenic

iodide, ferrous iodide, or elementary iodine mixed or emulsionized with cod-liver or other fatty or mucilaginous vehicle. [In this connection it is well to call attention to iodopin, which is a chemical combination of iodine and sesame oil, and has been used in phthisis both internally and hypodermically by many physicians. See a paper by Alfred C. Croftan in *Jour. Amer. Med. Assoc.*, Nov. 27, 1900.] Of the creosote group, the author thinks that beechwood creosote is a good enough preparation for all purposes, but great care must be taken that a pure article is obtained. Much of the commercial creosote contains impurities that irritate the stomach and the kidneys, but, the author says, there are at least two good preparations on the market, and if care be exercised to obtain one of these the drug can be given in very large doses without untoward effect. Beginning with  $\frac{1}{2}$  min. three times a day, the author cautiously increases the dose to the point of tolerance. He has given as much as 40 min. three times daily, but an average dose is 10 min. three or four times a day. It may be given in milk, or shaken up with cod-liver oil, or made up in a prescription with a compound emulsion of the oil. If given in capsules it should be given with an oily vehicle in the proportion of at least 8 min. of oil to 1 min. of creosote. The other available compounds of the creosote group are creosote carbonate, creosote valerianate, guaiacol, guaiacol carbonate, guaiacol benzoate, and guaiacol potassium sulphionate (thiocol). The great advantage of the guaiacol salts is the readiness with which they can be administered and their freedom from local untoward effect. Liquid guaiacol is sometimes useful as an analgesic application in laryngeal tuberculosis. It is also useful as an external application for the relief of pain. Slowly rubbed in, drop by drop, in doses of 20 to 40 drops, it will frequently reduce high temperature, otherwise uncontrollable. But care must be taken to prevent chilling after such an application.

The balsamics and terebinthines are especially useful in controlling the catarrhal processes in the lungs and bronchi. Among that class the author calls special attention to myrtol, which may be given in doses of 5 to 10 min. on sugar, in capsules or in emulsion. To obtain results it must be given for several weeks at least. Ichthyol may also be given internally alone or combined with some of the drugs already mentioned, and seems to have an especially good effect in the correction of collateral fetid bronchitis.

For the correction of the local condition

and in combating the septic processes of the tertiary stage (so much more destructive than the tuberculosis in itself), inhalations and intratracheal injections are indicated. As inhalations the author mentions myrtol, eucalyptol, thymol, menthol, oil of peppermint, chloroform, bromoform, creosote, formaldehyde and ethyl iodide. These drugs may be used singly or variously combined. Yeo's perforated zinc respirator is a very useful appliance, and for continuous respiration by its aid combinations like the following may be used: Chloroform, eucalyptol, creosote, alcohol—equal parts; myrtol, chloroform, terebene—equal parts, etc. But of all the drugs used for inhalation the author calls special attention to two—ethyl iodide and formaldehyde. The former may be used by simply removing the stopper of the little vial in which the ethyl iodide appears on the market, the heat of the hand being sufficient to volatilize it. It is especially useful in laryngeal tuberculosis. For the preparation and inhalation of formaldehyde no entirely satisfactory method is at present known. On the whole, the little lamp, by means of which paraform is converted into formaldehyde, has seemed to the author the best. This is allowed to impregnate the air of the patient's room, menthol and eucalyptol being sometimes volatilized at the same time.

Special symptoms demand special treatment. For the fever, rest and an ice-bag over the heart are beneficial, and a long sea voyage is excellent. The coal-tar products may be used cautiously; but much better in many cases is the inhalation of nitrous oxide in the forenoon; *i. e.*, before the expected rise of temperature, usually in two sittings, two hours apart—about 8 gallons mixed with atmospheric air, at each sitting. Oxygen inhalations are contraindicated.

Hemorrhage, though extremely alarming to the patient and his friends, will subside spontaneously in nine cases out of ten, if the patient be put to rest. Cold applications are generally useful, an ice-bag being applied over the heart, or over the seat of bleeding, if that can be located without undue disturbance to the patient. Cold food only is to be given, and in small quantities. Use of the voice is to be interdicted, and laxatives should be given to prevent straining at stool. When necessary, the force of the heart's action can be reduced by aconite in appropriate doses, and cough be checked by opium, codeine, or morphine. In severe cases, morphine may be given hypodermically up to the point of tolerance. The most generally useful drug to promote coagulation of blood and the formation of perma-

nent clot, sealing the wound in the vessel or vessels, is crystallized calcium chloride. With this, codeine, turpentine, or thymus extract may be associated. The calcium salt is to be given in diluted solution in comparatively large doses, say 15 grn. every second hour, for not more than four days consecutively. After two or three days, aromatic sulphuric acid should be given, after which, if necessary, the calcium salt may be resumed. Ergot is useless in most cases. Atropine sulphate, say  $\frac{1}{120}$  grn. given hypodermically at the beginning of hemorrhage, will often cut it short. Hydrastinine hydrochlorate is among the useful astringents.

For night-sweats, agaricin, hyoscine hydrobromate, potassium tellurate, camphoric acid, atropine, strychnine, picrotoxin, and the like, are useful internally, while sponging with alcohol and alum, or with an alcoholic solution of quinine, or dusting with zinc oxide or zinc oleostearate, will sometimes render internal medication unnecessary.

Diarrhea is often exceedingly troublesome and not to be controlled by regulation of diet. Among the drugs useful in different cases are arsenic, mercuric chloride, cupric sulphate, iron sulphate, tincture of ferric chloride, opium, tannic and gallic acids, bismuth salicylate, benzonaphtol; salol, guaiacol salts, etc. Before using either astringents or opium, the bowels should be thoroughly washed out by the administration of calomel in small doses, followed by a saline laxative, and this by irrigation with hot, physiologic, saline solution. Notwithstanding, however, the combined use of astringents, opiates and antiseptics, this symptom proves rebellious in many cases.

[Ichthoform, a combination of ichthyol and formaldehyde, is considered "well-nigh a specific" in tubercular diarrheas by Dr. R. Pallaco,<sup>1</sup> of Milan, who reports remarkable results from its use. Dr. Fr. Schaeffer,<sup>2</sup> of Munich, has published two reports of his experience in 17 cases of tubercular diarrhea with ichthoform; the results were highly satisfactory; great improvement was noticed in three to four days, while some cases were cured permanently.]

FOR OBSTINATE TUBERCULAR DIARRHEA.—Ichthoform, 5 grn.; tannalbin, 10 grn.; bismuth subgallate, 10 grn.; codeine,  $\frac{1}{4}$  grn.; oil of peppermint,  $\frac{1}{4}$  min. For one powder. One such powder every two to six hours.

<sup>1</sup>*Bull. Clin.-Scient. d. Peramb. di Milano*, 1900, No. 6.

<sup>2</sup>*Deut. med. Woch.*, 1900, No. 2. and *Therapie d. Gegenw.*, 1900, No. 10.

## HEART TONICS<sup>1</sup>

By John Upshur, M. D., Richmond, Va.

THE author states that under the title heart tonics he will also discuss agents that, under a strict classification, would be considered as cardiac depressants; nevertheless in the broadest sense and indirectly they are heart tonics, because they *regulate* the action of the heart.

*Digitalis*.—Physiologic action is most pronounced in the beginning by slowing of the heart's action, increased arterial tension, and lengthening of the diastole. But continued administration results in greater frequency and diminished arterial tension, due to exhaustion from overstimulation of the vagus, etc. In the first stage of its action there is a contraction of the arterioles of the kidneys, diminished elimination, consequent on overstimulation of the vagus, and secondary cardiac depression. As a result of these conditions, digitalis is a remedy of uncertain value, because a secondary condition of depression may result from its exhibition, and at a time when it would jeopardize the welfare of the patient.

To be more explicit, in mitral regurgitation, the lesion in which it is conceded to be most useful, in the earlier stage when we wish to sustain heart action until compensation is established by a physiologic hypertrophy, it is questionable whether the drug can be limited to its first effect until compensation is established; and in the later stage, when compensation fails and the heart is already depressed and exhausted, digitalis is evidently contraindicated. Digitalis is, to say the least, a remedy of transient benefit in mitral regurgitation and may be positively harmful in its ultimate results. But this is the most favorable standpoint from which to consider the drug. In fatty change in the heart walls, the stronger contraction of the heart in systole on the contained blood results in a muscular strain, thus increasing the dangers of rupture of the cardiac wall.

In the threatened heart failure of typhoid fever, benefit must accrue from the exhibition of such an agent as can be continued long enough to tide the patient over the critical period. The heart muscle, as the result of long-continued high temperature and impaired nutrition, is in a condition of granular, degenerative myocarditis. Any agent which stimulates the cardiac ganglia, inhibitory center or vagus under such conditions must be harmful to the patient in the highest degree; and when the exhaustive stage is reached, serious danger of fatal syncope may be expected as a legitimate

consequence. Hence in fevers, septicemia, and like affections, digitalis and all agents of similar physiologic action are positively contraindicated. Nor is this all: Careful observation has demonstrated that digitalis does not increase pulse tension in pneumonia. It is suggested because of the febrile condition. But another patent fact must be considered, namely, that with the lesion in the lung—hepatization, most probably—the threatened heart failure is the result of exhaustion. The heart tires from an ineffectual effort to keep up the circulation through solidified lung, and the compensatory respiration carried on by the remaining or partially congested tissue does not aerate the blood rapidly enough to save the strain on the tired heart muscle. It is like lashing a foundered horse to force him to renewed exertion of which he is incapable.

Again, in mitral stenosis, benefit is to be expected from the exhibition of digitalis because prolonged diastole allows the ventricle to receive a larger quantity of blood. Its greatest field of usefulness is in lesions of the mitral and tricuspid valves, with their resulting secondary lesions. But in aortic stenosis, the forcible contraction of the ventricle during systole, with obstruction ahead of the column of blood, is risky, because rupture of the heart wall may result. Nor is the danger less in aortic insufficiency. Lengthened diastole permits overloading of the ventricle, and again danger from heart rupture is at the maximum.

*Convallaria*.—In its action this drug is similar to digitalis and it is used under similar therapeutic indications. A fact of some importance is that it may be used as supplemental to digitalis. Its advantages over the latter are: (1) It is more strictly limited to the heart. (2) It does not prolong the diastole to the same extent, but slows cardiac action while augmenting the force of ventricular contraction. (3) It is probably free from the danger of cumulative action, and therefore may be given for a longer period. (4) It is probably better borne by the stomach, though the experience of observers differs in this respect. (5) Its diuretic action is not so distinct as digitalis. (6) It is of value in correcting cardiac rhythm. It must, however, be acknowledged that it is not so strong or reliable as digitalis.

*Sparteine*.—This is a true stimulant to the muscular substance of the heart, acting through the cardiac ganglia, and in the author's hands has been valuable when the heart walls were flabby and weak. It has been recommended as a heart stimulant in

<sup>1</sup> Jour. Amer. Med. Assoc., XXXVI, No. 12.

anesthesia. Sparteine, too, has the advantage of being slowly eliminated.

*Strophanthus*.—There is diversity of opinion among observers as to the true physiologic action of strophanthus; some claiming that its effect is less permanent than that of digitalis. If it be given in combination with strychnine, this objection is obviated, and it possesses the advantage of acting on the heart muscle and muscular coat of the blood-vessels, thus avoiding the reaction which comes from exhaustion of the vagus when digitalis is used. After compensation has failed, stimulation of the tired heart muscle by strophanthus, while the vagus is still active, is of considerable value. In the threatened heart failure of typhoid fever and the septicemias, given with strychnine, it will be found a very useful agent.

*Atropine*.—Its physiologic action is to stimulate the cardiac sympathetic, the accelerator apparatus of the heart, producing increased frequency and increased tension and at the same time to lessen the inhibitory apparatus. It must not be pushed to the point of exhaustion. Its greatest usefulness is in tiding the patient over an emergency, in cases of sudden collapse and threatened heart failure. Some of the cases of flabby, fatty heart, especially those in which we have bronchorrhea as a sequence of the impaired action of the heart, and in which also there is risk to the patient from threatened stoppage of the heart, and from interference with respiration by the flooding of the bronchial tubes with mucus, are peculiarly benefited by atropine because it deals with both these conditions. A respiratory stimulant as well as a cardiac, it strengthens respiration and stops the effusion of mucus by its drying effect on the bronchial mucous membrane. However, it is always important that it should be combined with strychnine. Potter recommends its use hypodermically in threatened heart failure from chloroform narcosis.

*Caffeine*.—Caffeine stimulates and then depresses the cardiac ganglia as well as the cardiac muscle. Its chief field of usefulness is in functional heart affections, or as an adjuvant in those cases of organic heart trouble in which the function of the kidneys needs to be stimulated, to get rid of dropsical effusion. It is not curative in this instance, but adds much to the comfort of the patient and aids in prolonging life. The author found caffeine, when given in combination with lithium benzoate and sparteine sulphate, especially useful in the dropsical conditions of parenchymatous nephritis, associated with secondary heart involvement.

*Strychnine*.—Close clinical observation has constantly increased the author's confidence in this agent, and demonstrated its reliability for definite results. Not the least part of its adaptability as a heart tonic is that, like other bitters, it is a stomachic tonic also, strengthening digestion and improving assimilation and nutrition. "It stimulates the motor nerve cells of the spinal cord, the cardiac motor ganglia, the respiratory and vasomotor centers in the medulla, and the sensory nerves and their terminal elements. The result is that respiration is deepened and quickened, the action of the heart is increased, and the blood-pressure raised."—(Potter.) In the enfeebled heart action from chloroform narcosis it is a valuable remedy, and it has become almost routine practice with many to precede the administration of chloroform by giving, hypodermically,  $\frac{1}{30}$  to  $\frac{1}{20}$  grn. of strychnine nitrate. Its value, administered as a safeguard, will be appreciated when we remember that death from chloroform is due to paralysis of respiration, or paralysis of the heart, or to the two combined, plus the shock of operation. Strychnine directly antagonizes these conditions. In the enfeebled heart of typhoid fever, the septicemias and pneumonia, or in the syncope due to heart failure, the author knows no remedy so potent and prompt to sustain heart action. In functional reflex cardiac disturbance, weakened irregular heart action, the cardiac disturbances of the climacteric complicated by exhausting hemorrhage; in the weakened heart action in the later stage of Bright's disease, after compensation has failed and arterial tension has given way, resulting in an ischemic condition of the blood-vessels—strychnine in all these conditions fortifies heart action. The superiority it has over digitalis and other heart tonics of its class is demonstrated by the fact that there is no cumulative depressant second or third stage. Nor will its power be disappointing in organic valvular lesions of the heart when the heart muscle needs support in the performance of its function. The fact that it may be pushed for a longer time and give satisfactory and definite results places it at the head of heart tonics.

*Nitroglycerin*.—We hear this agent spoken of, and see it mentioned in many articles of current medical literature, as a heart tonic. Experiment has demonstrated that it produces death by general paralysis, especially of the muscular system; and autopsy shows the ventricles of the heart unequally dilated, the right more so, and the venous system engorged with blood. It lowers arterial tension, and in an engorged

right heart is useful, combined with strychnine. Physiologically we have languor, nausea, rapid, weak, dicrotic pulse. It also impairs muscular contractility. Its most beneficial action is found in angina pectoris, both true and pseudo. The author is persuaded that its use is contraindicated in the weak and impaired heart of typhoid fever, septicemia, and surgical shock. No agent can be safely administered to sustain heart action and avert death from heart failure whose physiologic action is known to be, first, depression of the medullary center, consequent threatened paralysis of respiration, and paralysis of the muscular system.

*Opium.*—The clinical significance of the beneficial action of opium on the weak heart the author has seen repeatedly exemplified. When, after a long continuance of typhoid fever, the stage of coma vigil, vasomotor paresis, general, but especially marked in the accumulation of gas in the intestines; feeble, dicrotic pulse; dusky hue of the cutaneous surface, especially the face—in fine, that clinical picture so familiar to all, and indicative of the great jeopardy of the patient—opium in a commanding dose, repeated in a few hours if necessary, has changed the whole aspect of the case, and proved the pivot on which the case has turned to a prompt and sure convalescence.

In the discussion that took place after the reading of the paper the author was asked whether he had any experience with cactus grandiflora. He said that his experience with that drug had been slight; but he has used it in one condition especially—the weakness and irritability of the heart consequent upon excessive smoking. Dr. J. T. Melvin said that he used cactus as supplementary to strychnine, but not as a substitute for it. His own experience was that cactus was useful in all functional disturbances of the heart, not dependent upon any organic lesion. In digestive and genital disorders, also in excessive smokers and coffee drinkers, there is often a reflex disturbance of the heart, and in such condition cactus will prove of value. He gives the fluid extract in doses of 5 drops several times a day. Dr. Heinrich Stern was surprised that the author of the paper under discussion had omitted any reference to *Adonis vernalis* or adonidin. He said that in his investigations adonidin proved the very best and most efficient heart tonic in our possession, and it deserved a place right on top of our list of heart remedies. The dose of adonidin varied from  $\frac{1}{30}$  to  $\frac{1}{6}$  of a grain. He referred all those interested to his original paper in MERCK'S ARCHIVES (April and May, 1900).

#### TOXIC EFFECTS OF SOME COMMON DRUGS

Dr. Philip F. Harvey<sup>1</sup> indicates the injurious effects of many drugs, when taken over long periods even in the usual doses, and sometimes following even their temporary employment. He condemns the tendency to push medicinal agents until tolerance has been attained or passed. He has often seen the curative action of medicines in chronic diseases rendered futile by the accompanying disturbances of digestion, circulation, or nervous system, owing to excessive dosage. A case in question well illustrates this. The author was consulted by a young girl, who suffered great disfigurement from an eruption of pustular acne. She had taken mercury and arsenic in various forms, with uniformly disastrous effects, and positively refused to give these remedies another trial. The author prevailed upon her to take a prescription calling for very minute doses of mercury bichloride and arsenic chloride, but without her knowing the nature of the ingredients, and three months later she was relieved of her trouble, after having suffered for seven years.

It has been noticed that arsenic when used in ordinary doses over a prolonged period, as in the treatment of psoriasis, has caused the development of epithelial cancer. Among arsenic miners carcinoma frequently begins as "arsenic warts" on the fingers. Other deleterious effects of arsenic are dermatoses, multiple neuritis, locomotor ataxia, nephritis, asthma, and corneal opacities.

Some untoward effects of mercury in excess are not sufficiently well appreciated. Thus, it is an established fact that mercury given to the infant in the treatment of syphilis is liable to injure the enamel of the permanent teeth.

Some persons are very susceptible to iodoform, and a minute quantity dusted on a wound will precipitate intoxication.

Bromide and iodide of potassium produce their well-known train of undesirable effects. Three grains of the iodide have caused acute iodism twenty hours later.

Strychnine may lead to disastrous results, as the author has observed during an epidemic of typhoid fever in the army. Cardiac failure frequently followed the routine use of the drug, and the author thinks many lives were lost in consequence.

Quinine at times acts as a poison, causing the well-known symptoms. Occasionally very small doses produce an acute erythema with desquamation, even the nails becoming implicated.

<sup>1</sup> N. Y. Med. Jour., LXXIII, No. 4.



# Progress in Materia Medica and Drug Therapy

## URANIUM ACETATE IN DIABETES

Dr. Kronpetij<sup>1</sup> has used uranium acetate in the treatment of diabetic patients. The first patient was a man of thirty-seven, who passed daily 10½ pints of urine, containing 5½ per cent. of sugar; the second, a man of twenty-eight, passed daily 8½ pints of urine, with 7 per cent. of sugar. The dose of the uranium acetate was 1½ grm., repeated three times a day. In the first case there was a very rapid amelioration of all the symptoms; in the second case the result was absolutely nil, in spite of long continued treatment. Whence this difference in effect? asks the author, and he answers that it is hard to say, unless we accept, with Duncan, the possibility of a different etiological origin in different cases of diabetes. At any rate, uranium acetate cannot be considered a specific in diabetes, no more than the preparations of opium, the bromides and the salicylates.

## ATROPINE TREATMENT OF INTESTINAL OBSTRUCTION<sup>2</sup>

Introduced by Batsch about a year ago, the treatment of intestinal obstruction by large doses of atropine has given good results in the hands of many others, among whom are Seber, Festner, Schulmann, Marcinkowski, Holz, Ostermaier, etc. The underlying idea is to overcome the spasmodic condition of the intestinal musculature and thus relieve the obstruction. The doses of atropine have been pushed as high as 1/12 grm. hypodermically, repeated if necessary. In successful cases a movement of the bowels followed within a few hours. No symptoms of intoxication have been observed, notwithstanding the excessively large doses.

## TREATMENT OF GONORRHEA IN WOMEN

Dr. Marshall<sup>3</sup> thinks that treatment by douching only is unsatisfactory, as it may leave the inflammation of the cervix and upper vagina unaffected; the best treatment is by tampons and pessaries. He has given up the tampon method for treatment by pessaries, which is less painful and equally efficacious. These pessaries may be made in 1-inch test-tubes, of gelatin-glycerin, which is the best basis for the drug. When required for use, the test-tube is placed in hot water till the pessary slides

out, and is then passed up a speculum. The pessary gradually melts and lubricates the vagina with the drug used. For private practice these pessaries may be made in ovoid molds and kept ready for use. As regards the drug used, Marshall has tried the following: Iodine, ½ per cent.; ichthyol, 2 to 5 per cent.; corrosive sublimate, 1 to 500; argonin, 5 per cent.; lysol, 2 per cent.; formalin, 2 per cent.; airol, 10 per cent.; naphthol, 2 per cent.; copaiba and resin. The best results, he says, have been obtained by iodine and ichthyol. Argonin, airol, naphthol, and copaiba have the objection of being in suspension and not in solution. Formalin is too irritating.

## TREATMENT OF FAVUS

Favus of the scalp is quite a troublesome affection to treat, says Dr. E. H. Moore,<sup>1</sup> but on the body it is very easily destroyed. When affecting the scalp, some advise epilation, others oppose it. When the whole head is covered, it would be impossible, as well as inadvisable, to extract the hair, and in such cases it should simply be cut close. But when the favus is scattered, or in small patches, it is advantageous to practice thorough epilation. The patches should be kept saturated for one or two days with oil of ergot, and then thoroughly sponged with a 25-per-cent. solution of boroglyceride. In one or two hours the crusts will peel off, leaving a clean surface. If discharge is present after removal of the crusts, the scalp should be cleansed with hot borax water, dried with a towel, and then rubbed with the following ointment: Oleate of copper, ½ dr.; lard or vaselin, 1 oz.; a diluted tincture of iodine may also be used. The surface must be kept clear of crusts, and the treatment is to be repeated until all the parasites have been destroyed. When favus affects the body or the limbs, it can be easily removed by a few applications of a mixture of one part of tincture of iodine and two parts of alcohol.

## THE SUPRARENAL CAPSULE AS A HEMOSTATIC

Dr. W. N. Bates<sup>2</sup> calls attention to some new uses of the suprarenal substance as a hemostatic. He reaches the conclusions that it is the most powerful hemostatic known, and, when properly used, has no objectionable properties; that when

<sup>1</sup> *Medic. Obosrenis*, 1900, No. 18.

<sup>2</sup> *Therap. d. Gegenw.*, Jan., 1901.

<sup>3</sup> *Internat. Med. Mag.*, x, No. 2.

<sup>1</sup> *Eclectic Med. Jour.*, LXI, No. 2.

<sup>2</sup> *Med. Record*, LIX, No. 6.



used locally, hemorrhage from mucous membranes can always be controlled; that when used internally to stop hemorrhages, it is efficient in some, but not in all cases; that when it does control hemorrhage—whether it be after local application or internal administration—the effect is apparent in less than one minute. For local applications the author obtained the best results from a mixture of 1 part of the dried and powdered gland with 10 parts of water. This does not form a perfect solution, but an emulsion, and is very successful both in controlling and in preventing hemorrhages in operations on the nose and urethra. It is important that the mixture be freshly prepared, as it soon spoils; sometimes, in two hours. For use in the eye or ear, the emulsion should be filtered. It is important to know that the solution may be sterilized by heat without losing its efficiency. For internal administration the dried and powdered gland is efficient and it keeps indefinitely. To use the extract hypodermically is superfluous, as all the preparations of the suprarenal are absorbed by the tongue immediately, and the effect follows in less than one minute.

#### SALT SOLUTIONS IN HEMORRHAGE AND COLLAPSE

The value of rectal injection of hot saline solutions in overcoming the collapse due to excessive hemorrhage or purgation is warmly urged by Dr. T. B. Greenley.<sup>1</sup> Half a gallon of the solution, containing 1 oz. of table salt to the gallon of water, at 110°-115° F., may be injected into the bowel and retained by pressure on the anus. The fluid is absorbed very rapidly in the sigmoid flexure and colon. Pulse and color promptly improve and the patient rallies. The rectal method has several advantages over the use of saline solutions by hypodermoclysis or transfusion, it taking less time, being less painful to the patient, and less dangerous. Another advantage is that sterilization of instruments is not necessary. All we require is a fountain syringe, and in its absence a common hand syringe will answer.

The following three cases are given in illustration: One was a woman suffering from hemorrhage due to abortion at the end of the second month. She was virtually in a state of collapse, being pulseless and very pallid. A hypodermic injection of nitroglycerin and atropine was made, and half a gallon of hot salt solution was injected into the bowel and held there, by pressure on the anus, for half an hour. The pulse improved, her natural color reappeared to a certain ex-

tent, and there was no further hemorrhage. The second case was also one of abortion. The woman was flooding freely, a large pool of blood having passed through the bedding to the floor. The same treatment as in the first case was pursued, and in addition the womb was washed out with hot water and the clots removed by the fingers. The hemorrhage was completely arrested and in less than an hour the woman rallied. The third case was a child of eight months, suffering from cholera infantum. It had vomited and purged for three days before the doctor saw it. It was nearly exhausted; the pulse could not be counted; seemed to suffer from intense thirst. Morphine,  $\frac{1}{40}$  grn., and a minute amount of atropine were injected into the arm and a pint of saline solution into the bowels. In less than half an hour the pulse improved and the child became quiet. Complete recovery followed in a few days under appropriate treatment.

#### POISONING BY OIL OF TURPENTINE

The case of a young woman who had taken by mistake 1 to 1½ oz. of turpentine is reported by Dr. Francis G. Grapel.<sup>2</sup> Feeling no immediate effect she went to bed, but in about an hour and a half she woke up feeling very cold and with a sensation of dying. She arose with a giddy, sinking feeling, and walked with a staggering gait. Next morning urination was accompanied by great pain; the urine contained blood clots, and smelled very strongly of violets. Her menses, which were eight weeks overdue, came on but lasted only a short time. She was very thirsty and feverish, had severe headache and no appetite. The doctor ordered her to bed, put two linseed poultices to the kidneys and hot flannels to the abdomen; gave 1 oz. of magnesium sulphate internally, and  $\frac{1}{4}$  grn. morphine sulphate hypodermically. For the kidneys and bladder he prescribed a mixture of potassium acetate, infusion of buchu, and hyoscyamus. The improvement was slow, it being fully three weeks before the patient was entirely well. The urine examined twenty-five days after the accident still had the odor of violets.

#### MERCUROL IN SYPHILIS

Dr. Winfield Ayres,<sup>3</sup> thinking that an organic combination of mercury would possess certain advantages over the inorganic compounds in the treatment of syphilis, decided to make a thorough and extensive test with mercuriol. This compound is, as is well known, a nucleid of mercury—a com-

<sup>1</sup> *Jour. Amer. med. Assoc.*, XXXVI, No. 6.

<sup>2</sup> *Brit. Med. Jour.*, Feb. 9, 1901.

<sup>3</sup> *Phila. Med. Jour.*, 1900, No. 19.

bination of mercury with nucleinic acid—and was introduced to the notice of the medical profession by Dr. Karl Schwick-erata, of Bonn, Germany. The author started with small doses, and then went gradually higher, so as to determine the proper dosage; a dosage that would be at once safe and effective. As a result of his experiments, he found that the minimum dose exerting a controlling influence on the disease was  $\frac{1}{2}$  grn., and, therefore, advises the commencing dose to be  $\frac{1}{2}$  to 1 grn. Salivation has been produced by 2 grn., while in other cases as much as 6 grn. has been taken without any disagreeable by-effects.

The author points out the objections and inconveniences of the inunction treatment; the yellow iodide of mercury, while generally a favorite with the medical profession, also possesses certain disadvantages, such as irregularity of action and tendency to cause gastro-intestinal disturbances. Mercuriol seems to be free from such disadvantages.

In all, 65 cases received mercuriol at the Bellevue clinic, 60 of which had not had previous treatment. Of these, 13 did not return after the first or second visit; 14 did not remain long enough under treatment to give the preparation a fair trial; and 13 may be described as new patients. Deducting these 40 cases, there remain 25 cases that have been sufficiently long and regular in their attendance to supply data from which definite conclusions may be drawn. The author gives the detailed histories of these 25 cases. In summarizing, he remarks that while two months' treatment of syphilis is insufficient to determine absolutely the value of any remedy, the marked improvement shown by many of his cases makes it certain that mercuriol is of great value. Its superiority to mercuric chloride in controlling the symptoms of syphilis is, in his opinion, well established. Like all internal remedies, it has very little effect upon the initial local lesion; Still it seems to have hastened the healing. None of the cases required treatment with potassium iodide to control secondary manifestations.

To summarize: (1) Mercuriol causes less disturbance of the gastro-intestinal tract than any other preparation of mercury used internally; (2) it controls the skin manifestations and pains much better than any other preparation, while on the mucous eruptions it has as good an effect as any other, and has equally as good an effect upon the chancre.

Mercuriol should not be given in solution with potassium iodide. It is conveniently administered in pill form.

#### THIOCOL IN CATARRHS AND TUBERCULOSIS

Thiocol (potassium guaiacol-sulphonate) has been used by Dr. J. A. Goldmann,<sup>1</sup> of Vienna, in twenty-four cases (nineteen children and five adults) of chronic bronchial catarrh complicated with recurrent febrile attacks, very severe cough-irritation, and at times very difficult expectoration. Satisfactory results were obtained in all; the fever being entirely subdued in at most five days, expectoration greatly facilitated, the cough-irritation lessened, the respiration rendered more free, and the entire course of the disease rendered smoother, so that at the end of four, or at the latest seven weeks, convalescence was well under way. All the patients took the remedy readily, and without any objection; it was very well borne by them, and in not a single instance were any disagreeable by-effects, such as diarrhea or vomiting, caused. The thiocol was used in the form of a 10-per-cent. syrupy solution, which was given to adults in doses of one dessertspoonful after each meal, three times a day; children received a teaspoonful thrice daily, with milk or coffee diluted with water. In every case it was remarkable to observe how rapidly the appetite was increased, the general appearance and condition were improved, and weight was increased—from  $4\frac{1}{2}$  to 10 pounds being gained in a period of scarcely two months.

According to the author's report, equally decided and satisfactory results were obtained with thiocol in eight cases of acute and chronic pulmonary catarrhs in various stages; and special attention is directed by the writer to the unmistakable antiseptic action of the preparation, evidenced by the rapid reduction of the fever. After the first few doses of the thiocol solution a constant reduction was observed; and in cases where the fever had, with other remedies, always recurred, it completely disappeared after a six days' treatment with thiocol, and remained absent. In a very short time, besides, the general symptoms of the disease were much improved; the annoying cough, difficult expectoration, dyspnea, sense of weight and pressure on the chest, and general lassitude, diminished day by day, the appetite increased the subjective condition gradually improved, and physical examination after a time showed evidence of complete cure. Albuminuria

<sup>1</sup> *Canadian Jour. of Med. and Surg.*, Jan., 1901.

was not noted in any of the cases treated. The results in these cases lead the author to the conclusion that the remedy is to a certain extent a prophylactic.

Finally, the syrupy thiocol solution was also employed in nine cases of tuberculosis, three of which were young subjects, fourteen to twenty-three years old, and six from thirty-four to fifty-nine years old. Among the latter there were two of the most severe form, with cavity formation and repeated hemoptysis. In the milder cases the remedy afforded complete cures within a comparatively short time—four to six months; in moderately severe cases complete cures in from six to eleven months. Two very severe cases in the third stage were improved by the thiocol in so far that the night-sweats were lessened, the fever reduced, the appetite improved, and the severe and annoying cough-irritation lessened to a certain extent—results which are all that can be expected in such cases.

Prof. L. Maramaldi,<sup>1</sup> in speaking of thiocol at the last Tuberculosis Congress held at Naples, stated that it is the consensus of opinion among clinicians and therapeutists that creosote and its principal constituent, guaiacol, are efficacious remedies in the treatment of pulmonary tuberculosis. Unfortunately, however, we are often obliged to dispense with them on account of the unpleasant effects which they produce, such as nausea, vomiting, diarrhea, anorexia, and other phenomena characteristic of intense gastro-intestinal irritation. All the derivatives of creosote and guaiacol which chemistry has heretofore produced have failed to fulfill the expectations regarding them, because, while less irritating to the intestinal canal than the original drugs, they have the disadvantage of being insoluble in the ordinary solvents, are therefore but slightly absorbable, and a large part of them passes unchanged out of the system with the feces.

Thiocol, or potassium-guaiacol sulpho-nate, is an exception to this class, as it is very soluble in water and is easily absorbed by the stomach. As it has no odor and no disagreeable taste, it is well borne, even by the weakest stomach. It can, therefore, be said to possess all the therapeutic virtues of creosote without any of its disadvantages.

The author states that he was the first clinician in Italy to experiment with thiocol. He employed it in numerous cases of pulmonary tuberculosis in various stages, and in catarrhal affections of the respiratory tract. Under its influence there was an improvement, not only in the functional disturbances, but also in the physical symp-

toms. The temperature fell gradually until, in cases not too far advanced, it became normal. The cough became milder and less frequent, the expectoration diminished, changing in character from purulent to mucous; there was a marked decrease in the number of bacilli, and, if not too abundant, they disappeared entirely; the night-sweats disappeared, and the pains in the chest were decidedly mitigated. As the appetite improved, digestion became better, the bowels more regular, the general condition improved, and there was a notable increase both in strength and weight.

Although these beneficent effects are less pronounced in the third stage of the disease, yet the disappearance of every physical sign and the marked and permanent improvement in the general condition justify us in speaking of absolute cure in the first and second stages. Given in doses of from 15 to 45 grn. per day, the author has never noticed any unpleasant by-effects nor any disturbance of the alimentary canal. On the contrary, he has seen many a case of obstinate diarrhea yield to the remedy when administered in this quantity. The author states that his own observations, as well as those of numerous other clinicians, justify the conclusion that in thiocol pulmonary therapeutics has been enriched by an important and valuable acquisition.

#### TREATMENT OF COCAINISM

Dr. G. W. Norris<sup>2</sup> reports an interesting case of a dentist who, ten months prior to admission to the hospital, was treated with cocaine for painful hemorrhoids. He afterwards continued to use the drug in daily increasing doses, until, at the time of admission, he was using about 16 grains per day, hypodermically. He attended to his daily work, but time to him passed very rapidly; minutes seemed like seconds, and he had a constant, voracious, insatiable appetite. Alcohol, he found, counteracted the effects of the cocaine. Insomnia was constant, unless he took cocaine; upon injecting a small dose, he slept well for one or two hours, when a repetition of the dose became necessary. Single large doses kept him awake. For the past few months he had had hallucinations of hearing; and while aware of the subjective character of his sensations, the voices were so vivid as to make him fearful. The treatment consisted in complete withdrawal of the cocaine, and in strychnine sulphate,  $\frac{1}{30}$  grn., every four hours. Sulfonal was given to induce sleep. On the second night patient

<sup>1</sup> *Gazz. Internat. di Medic. Practica*, 1900.

<sup>2</sup> *Phila. Med. Jour.*, No. 163.

slept well, without any narcotic. He felt again like his former self, and complained of no craving for the drug. On examining the literature of acute and chronic cocaine intoxication, the author found that the following conclusions are perfectly in accord with the facts:

1. Cocainism is the most insidious of all drug habits. The use of the drug being unaccompanied by disagreeable after-effects—headache, nausea, vomiting, etc., which are met with after the use of opium or alcohol—the vice is readily and rapidly established.

2. Cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol.

3. Cocaine is eventually tolerated by the system in extremely large doses. (One case is recorded where 60 grn. were daily consumed.)

4. A relatively large number of habitués are found in the medical and dental professions. (It is said 30 per cent.)

5. The continued indulgence in cocaine invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration.

6. The smallest fatal dose on record is  $\frac{1}{3}$  grn., hypodermically.

7. While many cases of acute intoxication are being continually reported, there are relatively few fatal cases. The majority of such are the result of large doses injected into the urethra and bladder, *e.g.*, in one case 5, and in another case 6 fluid drams of a 5-per-cent solution into the urethra.

8. The amount of cocaine sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes is becoming proportionately more widespread.

#### TREATMENT OF FAVUS WITH FORMALDEHYDE

Dr. Demidoff<sup>1</sup> has obtained excellent results in a number of cases of tinea favosa by the use of formaldehyde. The method of treatment is as follows: As many crusts as possible are removed mechanically. The skin on the remaining crusts is then painted with a 5 to 10 per cent. solution of formaldehyde. To prevent evaporation and to render the action of the formaldehyde more lasting, the scalp is covered with a layer of cotton and gauze. The application causes redness of the skin and burning.

In a patient who had been affected

with favus for years and who had become almost completely bald, the applications of formaldehyde effected a perfect cure; the crusts and the redness disappeared, and the skin of the scalp resumed its normal appearance.

#### RHUS GLABRA IN ENURESIS

Dr. J. J. Cassidy<sup>1</sup> reports three cases, in boys ranging in age from twelve to fourteen years, in which the administration of sumach produced a permanent cure. The drug was administered as follows:

Fld. Ext. Rhus Glabra ..... 6 dr.  
Syrup.....to make 2 oz.  
Teaspoonful at bedtime.

In conjunction with that he administered the following laxative:

Ferric Citrate.....100 grn.  
Syr. Calcium Lacto-  
phosphate..... } of each, 2 oz.  
Arom. Syrup Cascara }  
Teaspoonful at noon, after meal.

This treatment was continued regularly from day to day, and without interruption, for four months. The author emphasizes the necessity for continued and long treatments. He believes the rationale of the treatment consists in the astringent action that is exercised on the vesical mucosa and on the fibers of the sphincters by the tannic acid of the rhus glabra. When the contact is repeated every day for a considerable time, important changes may be produced in the mucous membrane of the bladder and the habit of enuresis broken up.

#### DIONIN AS A SEDATIVE

Dr. Krijevsky<sup>2</sup> considers dionin much superior to codeine, as a sedative, analgesic, and hypnotic. The sedative effect becomes noticeable very rapidly in about fifteen minutes after the hypodermatic injection of  $\frac{1}{8}$  to  $\frac{3}{8}$  grn. While the duration of the effect and even the effect itself are not absolutely uniform, the results have been good in the majority of instances. Cough is favorably influenced, both in acute and chronic conditions. No by-effects have been noticed even after a long-continued use of the drug. The innocuousness of dionin makes it a valuable remedy in pediatric practice. Doses of  $\frac{1}{8}$  to  $\frac{3}{8}$  grn. in twenty-four hours are generally sufficient, and but very seldom are higher doses required than  $1\frac{1}{8}$  grn. per die. The author advises, for internal administration, a vehicle of syrup and cherry-laurel water.

<sup>1</sup> *Jour. de med. Milit. russe*, 1900, No. 8.

<sup>1</sup> *Brit. Med. Jour.*, 1901.

<sup>2</sup> Paris University Thesis, 1900.

### PROTARGOL IN EYE DISEASES

Dr. Wischerkevitch<sup>1</sup> has used protargol in a number of affections of the eye. In acute trachoma, painting the lids with a 5- to 10-per-cent. solution is very effective; the applications are made once or twice a day. In chronic trachoma this treatment is without any effect. In ulcerative blepharitis he used a 10-per-cent. ointment of protargol with very good effect; in ulcerations of the vitreous, instillations of a 5-per-cent. solution caused a rapid diminution or disappearance of the purulent secretions.

### THE TREATMENT OF BUBO

Dr. F. Griffith<sup>2</sup> states, in an elaborate article on the subject, that internal medication is often superfluous, beyond general hygienic measures and keeping the bowels freely open. However, iron, in Bland's pill or in other form, may be of use. In the early stages abortive measures are indicated. An ice-bag at bedtime or a flaxseed poultice applied to the bubo, combined with a vigorous treatment of the primary source of infection, will prevent further development in about one-third of all cases. The daily application of an ointment like the following often does excellent service:

Mercurial Ointment.....	} .... equal parts
Belladonna Ointment...	
Ichthyol.....	

This salve lubricates and softens the tissues. As soon as suppuration is demonstrable by fluctuation the indications are for surgical interference. The abscess should be opened and subsequently drained. The interesting question as to whether or not micro-organisms are present in the pus still remains undecided.

### THE THERAPEUTIC VALUE OF YEASTS

Yeasts have been employed in the treatment of various conditions. Their use has been recommended in furunculosis, infantile scurvy, gastro-intestinal disorders of infancy, enteroptosis, infectious fevers, and sepsis. Landau has treated vaginal gonorrhea by injections of brewer's yeast, claiming that the rapidly multiplying yeast organisms crowd out the gonococci. In diabetes yeasts have been found to influence the course of the disease very favorably. By splitting the sugars in the alimentary tract into alcohol and carbonic acid they make it possible for the patient to ingest liberal quantities of hydrocarbons without increase of the glycosuria. The yeasts retain their activity throughout the whole digestive tract, al-

though a certain portion is destroyed or neutralized by the various secretions. Taken in large amounts, yeasts produce vomiting, diarrhea, fever, and coma, probably through the action of the carbonic acid gas.

So far the employment of yeasts in therapeutics has rested on a purely empirical basis.

### ETHYLENEDIAMINE

The ethylenediamine,  $C_2H_4 \begin{smallmatrix} \diagup NH_2 \\ \diagdown NH_2 \end{smallmatrix}$ , used in the preparation of argentamine and kresamine (ethylenediamine-trikresol) is a clear, colorless liquid, of specific gravity 0.97. It is easily soluble in water, strongly alkaline in its reaction, and possesses an ammoniacal odor. Ethylenediamine is not escharotic or corrosive, but extremely mild, when pure. It dissolves albumin very easily, even when boiled. Dr. Jean Schäffer, assistant at the University of Breslau, proved that ethylenediamine possessed the property of clearing up the precipitates of silver chloride and silver albuminate that appeared in salt solutions, hydrocele fluid, and blood serum to which nitrate of silver had been added. Clotted blood was rendered glassy and transparent, and pus cells were entirely dissolved by the reagent.

Then, comparing the tissue-penetrating action of solutions of silver nitrate and of ethylenediamine-silver of equal strengths, he found that the latter was many times greater. Cubes of perfectly fresh liver of definite size were immersed in the solutions; and macroscopic sections clearly showed that the penetrating power of the new salt was at least five times as great as the nitrate. Microscopic sections, as shown in the microphotograms, revealed this still more clearly. The silver was deposited in the nitrate specimens in a narrow and distinct band; in the ethylenediamine specimens it was deposited in a broad zone that occupied the greater part of the cube, extending irregularly along the masses of liver cells toward the center.

### MERCURY-ETHYLENEDIAMINE

This is at present placed on the market only in solution, containing 10 per cent. of mercuric citrate. According to Drs. Krönig and Blumberg, mercury-ethylenediamine in the strength of 3:1,000, made by the addition of 30 grams (1 oz.) of the solution to 970 grams (1 quart) of water, is excellent for the disinfection of the hands. Professor Saenger holds, however, that a concentration of 1:1,000 (2½ dr. of solution to 1 quart of water) is sufficiently strong.

<sup>1</sup> *Vestnik Ophthalmologii*, 1900, No. 6.

<sup>2</sup> *N. Y. Med. Jour.*, LXXIII, No. 7.

<sup>3</sup> *Phila. Med. Jour.*, VII, No. 10.

Drs. Schenk and Zaufal<sup>1</sup> performed a series of experiments upon their hands in order to determine the effect of various methods of rendering them aseptic. Vigorous washing with sand soap was practically useless; after thirty minutes' hard rubbing the enormous number of 122 colonies per square Cm. could be counted; in fact, the prolonged rubbing seemed to bring the micro-organisms to the surface in even greater numbers. Even less satisfactory results were obtained by vigorous rubbing with a sterile brush and sterile soap. A series of experiments was also made with the mercurial ethylenediamine solution of Krönig. This consists of 4 Gm. of ethylenediamine, 10 Gm. of citrate of mercury, and 86 Gm. of water. For the hands the solution can be diluted from 1 to 30 up to 1 to 200. The hands were almost invariably perfectly sterilized. They conclude that the most perfect method of sterilizing the hands or skin is to wash the hands for five minutes with sand soap, and then immerse them for three minutes in the above-mentioned solution, which should be as hot as can be borne.

#### TREATMENT OF OPIUM POISONING

In the treatment of poisoning by opium, Dr. W. H. Lyne<sup>2</sup> recommends *tickling* the patient as a very efficient procedure, much more so than flagellation, while at the same time less cruel, as it results in no marks, bruises, etc. The author states that it acts like a charm, not only wakening the patient, but angering him nearly to the point of fighting.

#### USES OF ICHTHYOL

Dr. G. T. Collins<sup>3</sup> writes that he considers ichthyol a specific in carbuncle. He has used it in a dozen cases during the past five years, and the results have been most astonishing, though he rarely uses it stronger than 50 per cent. He always makes an incision through the apex, not only to relieve the tension, but to hasten and facilitate discharge.

In the treatment of erysipelas he relies entirely upon ichthyol as a local application, and has never been disappointed in the results. The heat, tension, and discomfort are promptly relieved, and resolution is hastened.

In case of poisoning by poison ivy, the rash frequently disappeared after one application of a 25-per-cent. ointment. In metritis or ovaritis, and in urethritis of women, tampons saturated with a 12- to 20-

per-cent. solution of ichthyol in glycerin give happy results. He also cured ulcers of many years' standing and of many years' treatment, by the use of ichthyol, together with the occasional application of a 5-per-cent. chloral lotion, when the ulcers were sluggish.

#### OREXINE TANNATE IN PEDIATRIC PRACTICE

Professor Otto Seifert,<sup>1</sup> of Würzburg, especially recommends the use of orexine tannate in pediatric practice. He says: Orexine, especially in the form of the tannate, does excellent service as a stomachic in the anorexia of consumption, as well as in that occurring in children of all ages. It should not be used uninterruptedly for a long time, but should be discontinued every now and then for a few days and then resumed.

#### STOUGHTON'S ELIXIR

Dr. Liégeois<sup>2</sup> calls attention to Stoughton's elixir, a preparation which originated in the eighteenth century and which he considers very useful in dyspepsia. The formula is as follows:

Wormwood Tops....	} of each, 6 dr.
Germander.....	
Gentian.....	
Bitter Orange Peel..	
Rhubarb.....	} of each, 75 grn.
Cape Aloes.....	
Cascarilla Bark.....	
Dil. Alcohol (60 %).....	
	2 pints

This elixir is thus seen to be a tincture of simple and of aromatic bitters, and it gives good results in the hypochlorhydric dyspepsias of chlorotic, amenorrheic, and leucorrhoeic patients, in the dyspepsia of convalescence from acute diseases, and in neurasthenic patients. The dose of this preparation is a teaspoonful three times a day half an hour before each meal, or a dessertspoonful before lunch and dinner. After five or six days, it is to be discontinued for two or three days. It is also well to alternate it with small doses of sodium bicarbonate before meals and of hydrochloric acid after meals.

#### TREATMENT OF ERYSIPELAS

Dr. N. G. Keirle,<sup>3</sup> physician-in-charge of Bay View Hospital, writes that during the past fifteen months about thirty cases of erysipelas have been treated, and with such uniform success that they no longer fear the disease. In every single case a cure was effected in a few days. Treatment follows:

The affected area is first inclosed in a

<sup>1</sup> *Munch. med. Woch.*, 1900, No. 45.

<sup>2</sup> *Va. Med. Semi-Monthly*, v, No. 22.

<sup>3</sup> *Med. World*, 1900, p. 430.

<sup>1</sup> "Die Nebenwirkungen der Modernen Arzneimittel."

<sup>2</sup> *Bull. gén. de Thérap.*, CXXXI, p. 30.

<sup>3</sup> *Phila. Med. Jour.*, VII, No. 7.

painted ring of tincture of iodine. The ring is not to be started at the margin of the reddened area, but from two to three inches from it, and a sufficient number of coats should be applied to cause a slight desquamation of the upper layers of the skin. At the same time the whole surface enclosed in the ring is to be covered with an ointment of ichthyol, about 1 dram to 1 or 2 oz. of vaselin. This is covered with a piece of gauze and a hot stupe applied and changed about every four hours. At the end of twelve hours the ichthyol ointment is washed off and a fresh coat applied, and if the iodine has not had sufficient effect, one or more new coats are applied. Internal treatment may or may not be instituted, as the result is the same in either case.

Although both iodine and ichthyol are used in the treatment of erysipelas, the author has not seen the treatment as outlined here described anywhere else. In his cases three or four days of this treatment have not failed to stop the trouble, the inflammation not crossing the painted line of iodine except in one case, in which another ring painted further out, and the same treatment as at first, effectually stopped the spread of the inflammation.

#### **DORMIOL AS A HYPNOTIC IN NEURASTHENIC AND INSANE PATIENTS**

At a recent meeting of the Belgian Psychiatric Society, Dr. A. Claus,<sup>1</sup> physician-in-chief of the insane asylum at Nortsel-Antwerp, reported on the use of dormiol in the wards of the asylum and in private practice. He said that the general impression derived from the employment of this drug was a very favorable one. In conditions of excitement or unrest its action is not constant, but in neurasthenic patients and in cases of purely nervous insomnia it is one of the best hypnotics. In the latter class the dormiol generally produces a sleep lasting from six to seven hours.

One case is well worth recording. A business man who was interested in very wide but uncertain financial enterprises had been suffering from the most obstinate insomnia for the past three months. He had tried the most varied remedies without effect; he had been to the mountains, to the valleys, to the seashore; he had subjected himself to the strictest diet, to hydrotherapy—all was in vain. He finally found that there were but two remedies which would give him from three to four hours'

sleep; those remedies were the constant electric current and dormiol.

The author states that in a case of tabes, with severe lancinating pains, dormiol had a very good effect.

In no case were any disagreeable by-effects noticed. The digestive functions, far from being upset, were, in some cases, considerably improved. The dose of dormiol ranged from a teaspoonful to a tablespoonful of the 10-per-cent. solution. The author hopes that the medical profession will give this new hypnotic, which is destined to occupy a notable place in the physician's armamentarium, a careful trial.

Dr. B. Tendlau,<sup>1</sup> physician to the Hospital Moabit (Berlin), says that in Prof. Goldscheider's division, dormiol was used in a great variety of cases of insomnia. The causes of the insomnia included alcoholism, acute pain, cachexia, neurasthenia, hysteria, heart disease, and convalescence from the acute infectious diseases. The results were variable. In insomnia due to severe pain small doses of dormiol produced no effect whatsoever; tablespoonful doses of the 10-per-cent. solution induced a short sleep, shorter than that induced by similar doses of trional, chloral, or amylene alone; in compensation, however, the after-effects which follow the use of the latter drugs—headache, nausea, malaise—were always absent. In the milder forms of agrypnia, especially in the insomnia of neurasthenic and hysterical patients, the administration of dormiol was generally followed by a deep sleep lasting several hours. The author thinks that the real indication for the use of dormiol will be found in this last class of cases. The dormiol also proved useful in cases of heart disease, where chloral could not be administered.

#### **VICARIOUS ABSORPTION OF OXYGEN IN PULMONARY OBSTRUCTION**

Insufficient oxygenation due chiefly to pulmonary obstruction is one of the gravest pathological phenomena, and to find a method to supply the blood with oxygen when the lungs are unable to do so is a problem indeed worthy of investigation. Practically the three most important diseases in which obstruction to the ingress of air and the absorption of the oxygen from it occurs, are laryngeal diphtheria, broncho-pneumonia in children, and double pneumonia in adults, states Dr. P. E. Doolittle.<sup>2</sup> In the first disease we can fortunately make use of intubation and tracheotomy, and it is therefore to a consideration of the two last-named dis-

<sup>1</sup> *Therap. Gazette*, Feb., 1901, p. 27.

<sup>1</sup> *Med. Times*, March, 1901.

<sup>2</sup> *Domin. Med. Monthly*, March, 1901.

eases that the author devotes his attention. The most available remedy for the purpose seemed to be hydrogen dioxide,  $H_2O_2$ , which, as is well known, is chemically water with an extra atom of loosely combined oxygen. By weight this loosely combined oxygen is equal to about  $\frac{1}{2}$  the weight of the hydrogen dioxide (more exactly,  $\frac{9}{17}$ ) and as it is in the nascent state when given off, it is much more active than the ordinary oxygen and is readily absorbed by the mucous surfaces, finding its way directly into the tissues. The medicinal solution of hydrogen dioxide contains 3 per cent. of absolute  $H_2O_2$ , and is capable of yielding 10 to 12 volumes of oxygen. This solution the author considers too strong and he dilutes it with 4 volumes of water before administering.

The first case in which he tried the dioxide was an infant three months old, suffering with broncho-pneumonia. The disease was going rapidly to an apparently fatal issue; there was general cyanosis and every other evidence of insufficient oxygenation. A teaspoonful of hydrogen peroxide (diluted with 4 volumes of water) every five minutes was ordered, and this was continued for several hours. The breathing gradually became easier, the cyanosis gave place to redness, and the child recovered. The second case was a man of forty-two who had a severe attack of double pneumonia. He was treated in a private hospital. Temperature,  $104\frac{1}{2}^{\circ}$ ; pulse, 130; respiration, 56. Hydrogen peroxide was administered freely by mouth and by rectum; eight hours after the temperature was  $104\frac{1}{2}^{\circ}$ ; pulse, 120; respiration, 27. The disease lasted six or seven days and terminated by lysis, but the respirations never exceeded 30 per minute. Patient made a complete recovery. This case occurred in the mountains in British Columbia, where, the author states, pneumonia is especially fatal. Of the previous eight cases treated in the same hospital, seven died. Of course, if desirable, oxygen may be given by inhalation at the same time, nor does the peroxide interfere with any other internal medication.

#### ACUTE DIGITALIS POISONING

Dr. Frank Radcliffe<sup>1</sup> reports the following case: A boy two years old obtained a box containing Nativelle's digitalin granules and swallowed five of them. As each one contained  $\frac{1}{250}$  grn., the boy consequently took  $\frac{1}{50}$  grn. of Nativelle's digitalin. This occurred in the morning. The boy remained well until evening, when he

became unusually cross; early the next morning he vomited repeatedly and became very drowsy. When the doctor saw him he was semi-conscious and pale, pupils somewhat dilated, vomiting small quantities of bile stained mucus, sweating profusely; extremities were cold, pulse was exceedingly irregular and intermittent—so irregular that it could not be counted—and the respirations were extremely shallow and slow.

The patient was given 2 grn. of calomel and liberal quantities of brandy and water. When seen again, about three hours later, the condition in general was much worse; the child was absolutely comatose. On the evening of the same day there was some improvement, and from that time on the child's recovery was uninterrupted though slow. Two weeks after the accident he was perfectly well; careful auscultation revealed nothing abnormal about the heart.

#### COUGH OF PHTHISIS

In that severe, obstinate, and unconquerable cough of phthical patients, due to ulceration, which in nervous persons especially comes on with every attempt to talk, eat or drink. Dr. Weissenburg,<sup>2</sup> of Colberg, recommends highly the following combination:

Dionin.....	} of each, 1 $\frac{1}{2}$ grn.
Codeine Hydrochlor.....	
Cocaine Hydrochlorate.....	$\frac{1}{4}$ grn.
Ammonium Valerianate.....	2 dr.
Bitter Almond Water.....	2 dr.

Fifteen drops on a piece of sugar, every three or four hours.

#### ACUTE ALCOHOLIC NEPHRITIS

Dr. N. B. Ormsby<sup>3</sup> says that many deaths ascribed to acute alcoholism are really due to acute nephritis, or still more often to an acute exacerbation of chronic alcoholic nephritis. An acute nephritis, following an alcoholic debauch, in previously normal kidneys, is an extremely rare occurrence in the author's opinion. An illustrative case is reported. The patient, a man of thirty-two, was supposed to be suffering with delirium tremens; he had been in the habit of taking several drinks of whisky every day, and for a week back he had been on a spree, being in a state of intoxication during the entire time. The author administered  $\frac{1}{6}$  grn. of apomorphine hypodermically; active vomiting followed, and the patient fell in an apparently restful sleep. Six hours later the author found the pa-

<sup>1</sup> *Brit. Med. Jour.*, 1901, p. 338.

<sup>2</sup> *Munch. med. Woch.*, 1901.

<sup>3</sup> *Cleveland Med. Gazette*, XVI, No. 4.



tient in a state of profound coma, with dilated pupils, slow full pulse, Cheyne-Stokes respiration, and a temperature of 101° F. The patient had passed no urine. On catheterization 4 oz. of offensive, turbid urine were obtained, which was loaded with albumin, shreds, and some blood.

The author then put the patient in a hot pack, surrounded by several hot-water bottles, and an ordinary table oilcloth over all. This produced active diaphoresis in a short time, and in two hours there were signs of consciousness. Calomel and digitalis were administered in small doses every hour, also an alkaline diuretic mixture. At the end of four hours he was entirely conscious, and in fourteen hours he had active purgation, a constant desire to urinate, with a great deal of pain over the kidneys. The previous treatment was continued, except the hot-water pack, with an increase in the amount of urine and a decrease of albumin; pain was lessened and temperature came down to 98° F., followed in a few days by complete recovery, and ability to return to work.

The author thinks that acute alcoholic nephritis itself is very much overlooked by physicians, on account of the many constitutional symptoms of acute alcoholism, such as cerebral congestion, cardiac failure, gastritis, etc.

He states that if every man who is found unconscious on the street, with the odor of liquor on his breath, could be taken to a hospital (instead of to a jail, and allowed to die, as is true in many cases) and be put into a warm bed, then catheterized, and an examination of the urine be made at once, in many cases it would be found loaded with albumin, urea, blood, casts, uric acid and epithelium, a condition which, if allowed to continue, soon results in uremic coma and death. If such cases be treated by means of active purgation, diuresis, diaphoresis, and active cupping the author thinks that many would be restored to normal health.

#### QUININE IN UTERINE AFFECTIONS

Dr. P. Dolche<sup>1</sup> states that quinine has an important field of usefulness in the treatment of uterine affections. It is very useful in congestive dysmenorrhea, by diminishing the flow of blood to the genital organs, and in dysmenorrhea due to neuralgia of the genital organs. It may also prove useful in amenorrhea, by stimulating the contraction of the uterus and of the utero-ovarian vessels, which would in their

turn stimulate the dormant ovulation. In metrorrhagia and menorrhagia not dependent upon any organic disease, it is very effective. The author gives the quinine in largest doses, 8 to 24 grn., and he combines it with digitalis or ergot, as may seem indicated.

#### IRREGULAR AND PAINFUL LABOR

Dr. C. N. Miles<sup>1</sup> recommends the following prescription as especially applicable in primiparæ during the first stage of labor, when the patient is nervous and irritable, and the os rigid and undilatable:

Potassium Bromide....	} of each, 10 grn.
Sodium Bromide.....	
Ammonium Bromide....	
Chloral Hydrate.....	
Tinct. Orange.....	10 min.
Strychnine Sulphate.....	1/32 grn.
Tinct. Calumba.....	10 min.
Chloroform Water.....	to make 1 oz.

While the mental anxiety and the pains are relieved to a great extent by this combination, the progress of labor is not interfered with in the least.

#### TREATMENT OF NASAL SYPHILIS

After referring to the importance of a correct diagnosis of nasal syphilis, Dr. M. C. Morris<sup>2</sup> states that to check promptly the progress of the disease, whose destructive ravages have such an important influence on the entire future life of the patient, internal treatment alone is not sufficient; local applications to the nose and inunctions of mercury to the body are necessary. The oleate of mercury should be applied to the thinner parts of the skin, in various parts of the body. The nasal organ should be cleared of the contained crusts, at least a half-hour being taken for this one task. Using a soft-rubber bulb syringe or a Birmingham douche, the crusts should be thoroughly soaked with Dobell's solution. When the crusts have become soft they may be removed with angular forceps. After all the large crusts have disappeared the small crusts, and any dried secretion or mucus, may be removed with a cotton applicator. Then a careful search for any denuded or loosened bone should be made. After cocaineizing, probe the nose and detach and extract any loosened bone. If the sequestrum is too large to remove, it may be crushed with forceps. After the above treatment the inflammation will rapidly subside. Any remaining particles of pus are destroyed by hydrogen peroxide, upon a cotton applicator. Then an applica-

<sup>1</sup> *Presse Méd.*, Jan. 8, 1901.

<sup>2</sup> *Clinical Jour.*, 1900.  
<sup>3</sup> *Med. Age*, XIX, No. 4.

tion of 1 dr. of silver nitrate to 1 oz. of water should be made, the whole ulcerated area being attacked. Complete the dressing with the insufflation of an iodoform mixture as follows:

Iodoform.....	} of each, 30 grn.
Tannic Acid.....	
Bismuth Subnitrate..	} of each, 2 dr.
Powd. Acacia.....	
Morphine Sulphate.....	2 grn.

The patient should be directed to syringe the nose constantly—twenty to thirty times daily—with Dobell's solution, and should be treated daily for several days as above if a permanent cure is expected.

#### AMBLYOPIA FROM THE USE OF JAMAICA GINGER

Prof. John Dunn<sup>1</sup> reports two cases of this kind, in which total blindness followed in a few hours the ingestion of rather large quantities of Jamaica ginger prepared with methyl alcohol ("wood spirit"). In one of these cases loss of vision was preceded by nausea and vomiting. In both gradual improvement took place, but the restoration of vision was not complete. A neuritis with subsequent atrophy of the optic nerve is the underlying process. Similar cases have been previously reported by Thompson and Wood.

#### TREATMENT OF DYSENTERY

Dr. Potilov<sup>2</sup> recommends ichthyl enema-ta in the treatment of dysentery. He uses for each injection 6 drams of ichthyl dissolved in about 27 oz. of water. The patient takes at the start a dose of castor oil and the ichthyl injections are then given every other day. An endeavor must be made to make the liquid reach as high up in the intestine as possible. The pains disappear very rapidly under this treatment, and all other symptoms improve.

#### AUSTRALIAN BITTER BARK IN INFLUENZA

The above plant, also known as fever bark (botanical name, *Alstonia constricta*), belongs to the natural order *Apocynaceae* and is a native of Queensland and New South Wales. It contains several alkaloids, the principal of which is alstonine. The bark is intensely bitter, and is used by some brewers to add bitterness to their ales. The natives use it as a general tonic; in its properties it resembles both quinine and strychnine. Dr. J. Gordon Sharp<sup>3</sup> has employed the tincture for the past eighteen months as a general tonic, more particularly in influenza. He starts with it as soon as the feverish stage is over and gives from 5 to

10 min. in chloroform water four times a day, preferably shortly before meals. From results obtained he recommends it as a valuable agent in the treatment of influenza. The dose of this tincture is given in the Addendum to the British Pharmacopœia as 30 to 60 min., but the author considers ing with the insufflation of an iodoform mixture as follows:

#### PROTECTION AGAINST MOSQUITOES

Dr. J. A. Wegg<sup>1</sup> writes that they have found kerosene a most effective and simple protection against mosquitoes. They sprinkle some of it about the sleeping chamber or cabin and tie handkerchiefs or towels saturated with the kerosene on the bedposts, etc., above the head of the occupants. The author has also used a solution of carbolic acid, but prefers kerosene, because it is cheap and innocuous—the latter an important point when dealing with an ignorant population.

#### THE TREATMENT OF NIGHT-SWEATS IN CONSUMPTIVES WITH TANNOFORM

Our remedies against the night-sweats of pulmonary phthisis are internal and external. Many objections attach to the use of internal medication, and thus an efficient external measure has long been a desideratum. Recently Hirschfeld introduced the use of formaldehyde alcohol. The patient's skin is painted with a mixture containing equal parts of formaldehyde and alcohol. The shortcomings of this method are various: irritation of the eyes and respiratory tract, sensation of burning, local irritation, etc. To obviate these untoward effects, combinations of formaldehyde with other agents were suggested.

Dr. J. Strasburger<sup>2</sup> substituted tannoform for the formaldehyde. The former is a condensation product of tannin and formaldehyde. It has been extensively used as a dusting powder in the various forms of hyperidrosis (1 part tannoform to 2 parts talcum) and with good results. The author employs tannoform in night-sweats of phthisis in the form of a powder, with which the parts of the body prone to excessive sweating are dusted. The effect has been remarkable, the night-sweats frequently disappearing after a single dusting. In most cases, however, the procedure had to be repeated every night. The effect can be enhanced by rubbing the powder into the skin. Untoward results have not been observed. The remedy is well worthy of further trial.

<sup>1</sup> *Virginia Med. Semi-Monthly*, v, No. 20.

<sup>2</sup> *Les Nouveaux Remèdes*, xvii, No. 2.

<sup>3</sup> *Lancet*, No. 4041.

<sup>1</sup> *Brit. Med. Jour.*, 1900, p. 211.

<sup>2</sup> *Therap. Monatsh.*, March, 1901.

# MERCK'S ARCHIVES

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APRIL, 1901

MANY writers of medical articles have an irresistible liking for rendering the phrase "by mouth" (when speaking of administering medicines) in Latin. There is no objection to this, except when the phrase is so translated that it would have given a fit of indigestion to Cicero, and grates on the nerves of any one who is familiar with even the rudiments only of the noble Roman tongue. *Per orem* is incorrect, ungrammatical, and altogether barbaric. No Roman ever said *per orem*. How this phrase gained currency in our medical literature is beyond comprehension. The correct term is *per os*. "Per" is a preposition requiring the accusative case; "os" is a substantive of the neuter gender, of the third declension; and the accusative of substantives of the neuter gender is always the same as the nominative. Consequently, "by mouth" should be rendered "*per os*" and not "*per orem*."

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WE are glad to see other medical journals copying freely and frequently from our pages. It shows that our endeavor to give our readers genuinely useful and practical matter is more or less crowned with success. But we confess that the feeling is not altogether one of unalloyed pleasure when we see that this or that journal, in transferring bodily several of our articles into its pages, has neglected to state the source from which the articles have been taken. This is not as it should be. While we cheerfully grant the right to every medical journal to copy as much as it pleases from our pages, we must insist as a matter of ordinary journalistic courtesy, that MERCK'S ARCHIVES

be given credit in each and every instance. Every item in the *materia medica* and other departments of our journal is the result of original work, being digested and abstracted, or translated, by the staff of the ARCHIVES.

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THE alcohol question—i. e., as to the rôle of alcohol in therapy—is not much nearer solution now than it was twenty years ago. One of the obstacles in the way of arriving at a satisfactory solution has been the intemperance with which the advocates of temperance have always approached the question. That the abuse of alcohol is one of the greatest curses of mankind, few will deny; but what has this to do with the value or worthlessness of alcohol as a therapeutic agent? Perhaps a greater curse than chronic alcoholism is the addiction to morphine or cocaine. The baneful effects of morphinomania or cocainomania are indeed terrible; but would anybody condemn or deny the value of these alkaloids because forsooth, they cause disastrous results when improperly and excessively used? Sentimentalism must have no place in the discussion of a purely scientific question. We detect some hopeful signs in recent discussions on the subject, an attempt being made to analyze the various phases of the question in a purely impersonal and impartial manner. An interesting paper in connection with the above subject appeared in the *Edinburgh Medical Journal* for March. It is by Dr. J. Mackie Whyte, lecturer on clinical medicine, University of St. Andrews, and is entitled "Some Recent Researches on Alcohol; Their Bearing on Treatment." To every physician interested in the question of the true rôle of alcohol in therapeutics—and where is the physician who is not so interested?—we advise a careful perusal of the above paper. We shall publish it in abstract in the next issue of the ARCHIVES.

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WE wish to call the attention of our readers to the Doctors' Exchange in the advertising pages of the ARCHIVES. A physician may find it advisable, for the physical welfare of himself or family, to seek a new location; his practice may be so large as to demand an assistant; he may need certain books or instruments; perhaps he may wish to dispose of a portion of his library, or to sell certain specimens or apparatus. In all such cases he has the privilege of addressing a large number of the profession through the "Doctors' Exchange" of MERCK'S ARCHIVES. Announcements, confined to personal wants, will be inserted free of charge.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

C. F. G.—It is beyond the scope of this department of the ARCHIVES to go into an explanation of the difference between faith-curists and mind-curists. The definition given by a wit may perhaps answer your purpose; it is as follows: "Faith cure differs from mind cure in that the faith curers have no mind, while the mind curers have no faith."

G. B. T. inquires for an explanation of Haycraft's Test for bile in the urine; a formula for a Liquid Soap, and what Stoker's Cramp is.

Haycraft's test for bile in the urine consists in throwing some finely powdered sulphur (sublimed sulphur; flowers of sulphur) into the urine. If the urine is normal the sulphur will float; if bile or biliary acids are present the sulphur will sink to the bottom of the vessel. A number of other substances, such as carbolic acid, benzoic acid, oil of turpentine, etc., if added to the urine will produce the same result, but as these substances are practically never present, either in normal or in pathological urine, the test is a valuable one. It is considered more delicate than Pettenkofer's test.

Concerning the formula for a liquid soap, we would say that the following is said to yield a very satisfactory preparation, although personally we have had no experience with it: 1 part of oleic acid is mixed with 1 part of alcohol, and sufficient concentrated water of ammonia is added to the mixture to neutralize the oleic acid. Some heat is generated during this reaction; the mixture ought, therefore, to stand until cool, and then 4 parts of ether are added. A solution of mercuric chloride in potassium iodide may be added to this mixture in any desired strength; an antiseptic soap will then be formed, suitable for surgical operations.

"Stoker's cramp," also known as "fireman's cramp," is a peculiar kind of very severe colic attacking people who tend furnaces in locomotives or steamers. The colic is accompanied by extreme pain, great prostration, blood-shot eyes, distressing thirst, labored breathing, irregular heart action, and an agonized expression of the

face. An original article on this subject—the only one which, to our knowledge, has been published—appeared in the ARCHIVES for August, 1900.

H. H. B.—In all the text and reference books at my command, I have looked in vain for the formula of Liebreich's Solution, used in the treatment of tuberculosis. Can you help me out? I am especially interested in this, because a patient now under my care claims he was given an injection of that solution while abroad, and was greatly benefited. He thought that he was permanently cured, but sees now that he was mistaken.

Liebreich's solution is a 1 to 5,000 solution of cantharidin; as cantharidin is insoluble in water, it must be converted into an alkaline cantharidate—that is, cantharidate of potassium or sodium. The formula is as follows: Cantharidin, 2 parts; potassium hydroxide, 4 parts (or sodium hydroxide, 3 parts); distilled water, 200 parts. Heat is applied until perfect solution results, and enough distilled water is then added to make 10,000 parts. Quantity of this solution for hypodermic injections, 8 to 16 minims (0.5 to 1 Cc.). The injections are repeated, as a rule, every other day. Prof. Liebreich claims that this remedy causes a very marked transudation of serum at the site of the tubercular focus.

C. E. B.—In reply to your inquiry regarding the dose and exhibition of Aluminium Chloride in locomotor ataxia, we would say that we find the following in the *Lancet* (Dec. 30, 1899) in an article treating of the progress of materia medica and therapeutics during that year: "The use of aluminium chloride in doses of 5 grn. and upward, repeated three times daily, has proved remarkably efficacious in locomotor ataxia. Though given originally for the purpose of relieving the lightning pains of this affection, it has in some cases effected considerable improvement in the gait and general condition of the patient." American journals of more recent date have also contained references to the subject, virtual repetitions, however, of the above.

A. G. E. asks some information regarding the doses and solubilities of Digitoxin, Digitalin, and Digitin.

Regarding the doses, digitoxin is much more powerful than digitalin. The dose of digitoxin is from  $\frac{1}{800}$  to  $\frac{1}{100}$  grn., the maximum being  $\frac{1}{60}$  grn. The dose of digitalin-German (which is always to be prescribed Digitalinum Germanicum Merck, if a reliable and uniform compound is to be obtained) is  $\frac{1}{16}$  to  $\frac{1}{2}$  grn. The doses which have been given— $\frac{1}{64}$  to  $\frac{1}{32}$  grn.—have on

further investigation been found to be insufficient, and the best results are obtained from doses as given above. Digitoxin is soluble in alcohol and insoluble in water; digitalin, on the other hand, is freely soluble in water and less so in alcohol. Digitin is therapeutically worthless. A more thorough discussion of the subject of the digitalis glucosides will be found in Prof. Solomon's paper, in the present issue of the ARCHIVES.

A. H. asks what Cadet's Fuming Liquid is.

Cadet's fuming liquid, also known under the name alkarsin, is a liquid of a brown color, extremely poisonous, and igniting spontaneously on being exposed to the air. It contains the radicle cacodyl or dimethylarsine,  $(CH_3)_2As$ .

S. C.—Kenophobia is a morbid fear of open spaces or places (from *kenos*, empty, and *phobos*, fear). Agoraphobia means practically the same thing, but has the additional meaning of fear of crowds or assemblies (from *agora*, an assembly, a market place, and *phobos*, fear).

C. A. G. asks for information on the use of Gelatin in the treatment of aortic aneurysms and in hemorrhages in general, and also for references to the literature on the subject.

Since Lancereaux's first published reports on the use of gelatin in aortic aneurysms, the literature on gelatin, both in this connection and as a hemostatic in general, has been very voluminous. The number of articles that have been published within the last few years runs into the hundreds, and to mention them all would be an extremely arduous task. The status of the therapeutics of this product at the present day is about as follows:

The results from the use of gelatin in the treatment of aortic aneurysms have not been satisfactory as a whole, but taking into consideration the hopeless prognosis in aneurysms, gelatin is still recommended as worthy of trial.

As a general hemostatic in hemoptysis, hematemesis, hematuria, intestinal hemorrhages, renal hemorrhages, hemorrhagic purpura, dysentery, etc., the verdict in its favor is practically unanimous. It has generally been given subcutaneously, but recently several reports have appeared as to its use per os, and the results have been very favorable. For subcutaneous injection the best form of administration is a 2-per-cent. solution of gelatin in a normal salt solution (6 or 7 Gm. of common salt to 1 liter of distilled water). Of this solution from 30 to

300 Cc. have been injected at one sitting. If the solution is sterilized, as it should be, and the field of injection is thoroughly aseptic, no fear need be entertained of abscesses; the injection, however, is very painful, and this militates against the general administration of gelatin by this method. When administered per os, it may be given either in the form of a simple solution, or in the form of soup, broth, bouillon, jellies, etc.

In conclusion we mention a few of the articles on this subject:

#### GELATIN IN ANEURYSMS

- Lancereaux, "Gelatin in Aneurysms." *Jour. Amer. Med. Assoc.*, Nov. 12, 1898, p. 1180.  
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 Geraldini, "Aortic Aneurysm Treated by Gelatin Injections." *Gazz. degli Osped.*, Feb. 4, 1900. Abstracted in *Brit. Med. Jour.*, March 3, 1900, p. 36 Epitome.  
 Prof. Stoicesco, "The Treatment of Aneurysm of the Aorta by Subcutaneous Injections of Gelatin." *Jour. de Méd. Intern.*, July 18, 1899. Inserted in *Lancet*, Sept. 16, 1899; abstracted in *Boston Med. and Surg. Jour.*, March 22, 1900, p. 302.  
 Sörgo, Joseph, "The Diagnosis of Aneurysms of Aorta and Innominate Artery, and Their Treatment by Subcutaneous Injections of Gelatin." *Zeit. f. klin. Med.*, XLII, Nos. 1 and 2. Abstr. in *Med. Record*, Jan. 12, 1901, p. 68.  
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 Bolton, "Aneurysm of the Innominate." *Med. News*, Jan. 27, 1900, p. 154.  
 Conner, Lewis A., "A Report of Three Cases of Thoracic Aneurysm Treated by Subcutaneous Injections of Gelatin." *Med. News*, March 16, 1901, p. 412.  
 Dobrochotoff, S. M., "Experimental Data Concerning Use of Gelatin in Medicine." *Chirurgia (Moscow)*, June, 1900. Abstr. in *N. Y. Med. Jour.*, Aug. 4, 1900, p. 213.  
 Golubinine, L. E., "Further Observations Concerning Treatment of Aneurysms According to Lancereaux's Method." *Klinitch. Jour.*, July, 1900. Abstr. in *N. Y. Med. Jour.*, Sept. 8, 1900, p. 429.

#### GELATIN AS A GENERAL HEMOSTATIC

- Martin, Wm., "Gelatin as a Hemostatic." *N. Y. Med. Jour.*, Feb. 19, 1898. Abstr. in *Phila. Med. Jour.*, Feb. 26, 1898, p. 361.  
 Gaglio, E., "Value of Gelatin as a Hemostatic." *Riforma Med.*, July 25 and 26, 1900. Abstr. in *N. Y. Med. Jour.*, Aug. 25, 1900, p. 339.  
 "Hemostasis with Gelatin." *Jour. Amer. Med. Assoc.*, Nov. 12, 1898, p. 1180.  
 Belfield, Wm. T., "Some Therapeutic Observations" (Hemostatic Properties of Gelatin). *Med. News*, April 11, 1900, p. 63.  
 "Gelatin as a Local Hemostatic." *Revue Med.*, Dec. 21, 1898. Abstr. in *Jour. Amer. Med. Assoc.*, Jan. 21, 1899, p. 131.  
 Kehr, H., "Gelatin to Arrest Cholemic Hemorrhage after Operations on Biliary Passages." *Münch. med. Woch.*, Jan. 30 and Feb. 6, 1900. Abstr. in *Jour. Amer. Med. Assoc.*, March 3, 1900, p. 557.  
 Costinesco, "Gelatin in Hemorrhagic Purpura." *Jour. Amer. Med. Assoc.*, Oct. 14, 1899, p. 996.  
 Pawlowski, "Use of Gelatin for the Purpose of Controlling Hemorrhage from the Stomach." *Therap. Gaz.*, July 15, 1900, p. 447.  
 Nichols, J. B., "The Hemostatic Use of Gelatin: with Report of a Case of Hemophilia Treated by Gelatin, with Recovery." *Med. News*, Dec. 2, 1899, p. 705.  
 Schwabe, "Gelatin in Hematuria." *Therap. Monatsh.*, June, 1900. Abstr. in *Jour. Amer. Med. Assoc.*, Aug. 18, 1900, p. 402.  
 Freudweiler, "Some Unfavorable Experiences in the Subcutaneous Use of Gelatin in the Treatment of Hemorrhage." *Centrab. f. Innere Med.*, July 7, 1900. Abstr. in *Phila. Med. Jour.*, Sept. 1, 1900, p. 376.  
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 Pensuti, "Gelatin Injections in Dysentery." *Gazz. degli Osped.*, March 4, 1900. Abstr. in *Brit. Med. Jour.*, April 21, 1900, p. 83 Epitome.  
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 "Gelatin as a Hemostatic." *Amer. Med.-Surg. Bull.*, Nov. 10, 1898, p. 1030.

## Correspondence

[TRANSLATION]

### MERCK'S ARCHIVES:

To obtain a compound of quinine which should possess all the therapeutic properties of quinine without sharing its bitter taste has always seemed to me an extremely interesting problem. The statements made in regard to equinine induced me to try it on a large scale, and my experience has corroborated the claims made in regard to it. I think that equinine is a remarkably valuable acquisition in pediatric practice, a true desideratum, and I am happy to possess an agent which I can administer even to the most refractory children without the least trouble or struggle.

I have given equinine to more than 600 children in my service, ranging in age from a few days to fifteen years. The dose ranged from 4 to 45 grn. daily, the vehicle being syrup of licorice, syrup of orange peel, syrup of orange flowers, etc. In not a single case was there any complaint, either from the mother's or the child's side; the taste was never objected to, nor were there any signs of intolerance.

It is my firm conviction that in children's practice equinine should always be preferred to any other sort of quinine, except in cases where we are obliged to administer the antiperiodic hypodermically.

Dr. MONCORVO.

Professor of Children's Diseases at the University of Rio Janeiro; Corresponding Member of the Academy of Medicine, Paris.

### MERCK'S ARCHIVES:

Among the old-time remedies, there is none against which the laity are more prejudiced than calomel; but, like the friend in time of need, it has been too well tried and proved to be discarded. Particularly is calomel indicated in cases of the grip, which, since its invasion of this country some ten years ago, has made, directly or by its complications and sequelæ, invalids of untold thousands. In all cases of this malady there is a universal complaint of a sense of chilliness. This derangement of the circulation, by its contracting the small blood vessels at the periphery, produces congestion of the internal organs. This condition, if not attended to in time, is followed by a stage of stasis, and then by exudation in the lungs and pleura, which is the chief cause of so many cases of pneumonia and pleuropneumonia. The liver, too, becomes congested and hepatogenous jaundice frequently follows. There is depression of the organic functions and a state of autotoxemia is speedily induced. In treating these subjects, after ordering them to bed a mild calomel purge is indicated, which speedily relieves the congestion of the portal system. At the same time I order heart and nerve tonics in order to support the system, and diaphoretics to cause an increased flow of blood to the periphery, thus relieving the internal congestion.

I do not know of any department in medicine in which there is a greater field for study and investigation for the benefit of mankind, than in the study of the chemical action and change that different drugs undergo in the system by absorption.

The mild mercury chloride is always recommended to remove opacity of the cornea. Now, what is the chemical combination of the opaque exudation that calomel has the power to remove? Again, is the calomel that is dusted in the eye two or three times a day absorbed through the exter-

nal coverings, and in coming in contact with the opaque matter formed into an albuminate of mercury, and thus slowly changed into a substance that is easily absorbed?

This leads me to speak of the action of calomel in a disease in which I have never heard of the drug's being recommended in any medical book or journal; namely, its power to remove pterygium. (Poncet thinks this disease is due to imprisoned microphytes. If this be true, calomel must have some heretofore unknown germicidal properties.) I was using calomel to remove an opacity of the cornea in a patient who had a pterygium, when to my surprise and long before the opacity was removed, the pterygium had disappeared. Knowing of another person with pterygium, I gave him a camel's-hair brush and some calomel, directing him to dust the drug into the eye three times a day, and report to me in two weeks. He followed my directions, and in just two weeks the pterygium had disappeared. There has been no return in either case in over three years.

I wish some physician who makes a specialty of the eye would give calomel a thorough trial in pterygium and report the result through your journal.

S. H. JOHNSON,

Asbury, N. J.

### MERCK'S ARCHIVES:

I have tested ichthoform in two cases, as follows: Case I.—A lad nine years old. During convalescence from mumps he contracted cold and came down with symptoms of severe grip, the complications of which were watery, foul-smelling passages, great weakness and gastric fermentation. I gave him bismuth subnitrate, salol, and later bismuth subgallate, with indifferent results. I then tried ichthoform powders, 5 grn., with mint sugar, every three hours. This cured the bowel trouble, arrested fermentation, and placed him in such condition that a tonic brought him to normal health quickly.

Case II.—A baby nine months old had been under care of a brother practitioner off and on for attacks of diarrhea of fermentative character. The odor from passages was vile. When the case fell into my hands I ordered entire change of diet, discarding milk entirely, as that seemed to be the chief food that disagreed. I gave in turn bismuth subnitrate and salol, bismuth subgallate, lactopeptin, small doses calomel, etc., but with seemingly transient benefit. I then placed the child on a shake mixture containing 3 grn. ichthoform to the dose, administered every three hours. Shortly afterward the father reported the child better than it had ever been, the bowels being in nearly normal condition.

J. T. MOORE, M.D.,

Minneapolis, Minn.

Professor of Theory and Practice of Medicine, Hamlin University.

### MERCK'S ARCHIVES:

I wish to report briefly a case that came under my notice recently. A woman of forty-eight, who has had Bright's disease for nine or ten years, was taken violently sick one morning with threatening symptoms of uremia—violent headache, nausea, complete anuria, etc. Infusion and then the tincture of digitalis were given in large doses every hour, with no other result except that of increasing the headache and the nausea. When called in, I discarded the digitalis and gave her a mixture of caffeine, nitroglycerin (1-40th grn. to each dose), spirit of nitrous ether, and potassium citrate. After the third dose the patient passed three pints of urine and all her symptoms improved.

Dr. W. R.,

New York City.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analyzed before being submitted to our readers.

### Chronic Bronchitis:

Fld. Ext. Euphorbia	} of each, 4 dr.	
Pilulifera.....		
Tinct. Nux. Vomica..		
Comp. Tinct. Benzoin		
Tinct. Capsicum.....		
Spt. Glonoin (1 %)		40 drops
Syrup Tolu.....		1 oz.
Comp. Syrup Sarsaparilla, to make		4 oz.
One teaspoonful every four hours in water.		
—MAYS.		

### Chronic Bronchitis, with Gouty Diathesis:

Sodium Salicylate.....	1½ dr.
Potassium Iodide.....	2 dr.
Solut. Ammonium Acetate....	1 oz.
Spt. Glonoin (1 %)	50 drops
Tinct. Strophanthus.....	4 dr.
Elixir Lactopeptin... }	} of each, 1 oz.
Infus. Gentian.....	
Comp. Syrup Sarsaparilla, to make	4 oz.
One teaspoonful every four hours in water.	
—MAYS.	

### Pertussis:

Carbolic Acid.....	8 min.
Brandy.....	30 min.
Tinct. Iodine.....	10 min.
Tinct. Belladonna.....	30 min.
Tinct. Opium.....	12 min.
Syrup.....	2½ dr.
Peppermint Water.....	3 oz.
One teaspoonful every two hours to a child over two years of age.	

### Rheumatism, Lumbago, Sciatica, etc.

Salicylic Acid.....	} of each, 4 dr.
Oil Turpentine.....	
Wool-fat.....	
Lard.....	4 oz.
Apply two or three times a day.	

### Neuralgia:

Ext. Hyoscyamus.....	2 grn.
Ext. Valerian.....	3 grn.
Morphine Hydrochlorate.....	¼ grn.
Powd. Glycyrrhiza.....	sufficient
Make into one pill. One such morning and night; or, not over three in twenty-four hours.	

### Fatty Heart:

Sodium Arsenate.....	1/4 grn.
Potassium Iodide.....	¾ grn.
Powd. Nux Vomica.....	¼ grn.
Powd. Rhubarb.....	¾ grn.
Ext. Dulcamara.....	1½ grn.
Make into one pill. Take one such daily.	
—A. ROBIN.	

### Antineuralgia Pill:

Zinc Valerianate.....	5/8 grn.
Quinine Valerianate.....	1½ grn.
Ext. Opium.....	1/8 grn.
Ext. Belladonna.....	5/8 grn.
For one pill. Two to six such pills daily.	
—VON.	

### Neuralgia:

Tinct. Aconite.....	} of each, 1 dr.
Tinct. Colchicum Seed	
Tinct. Cimicifuga....	
Tinct. Belladonna....	
drops every hour until relieved.	

### Myalgia:

Fl. Ext. Cimicifuga..	} of each, 1 oz.
Fl. Ext. Coca.....	
Ammon. Tinct. Guaiac	
Teaspoonful three times a day.	

### A Tonic Capsule:

Strychnine Nitrate.....	1/34 grn.
Sodium Arsenate.....	1/30 grn.
Sodium Phosphate.....	1 grn.
Hemogallol.....	4 grn.
Aloin.....	¼ grn.
Podophyllin.....	½ grn.

For one capsule. One three or four times a day. [While being a good general tonic and reconstructive, it has been found especially useful in dipsomaniacs and morphine habitués.]

—W. J. ROBINSON.

### Alopecia:

Pilocarpine Hydrochlorate....	5 grn.
Oil Rose.....	8 min.
Oil Rosemary.....	} of each, 4 dr.
Cantharides Liniment	
Glycerin.....	1 oz.
Expr. Oil Almond....	} of each, 10 dr.
Spt. Camphor.....	

To be rubbed well into the scalp night and morning.

### Alopecia Following Fevers:

Castor Oil.....	2 oz.
Tinct. Cinchona.....	} of each, 1 oz.
Tinct. Rosemary.....	
Tinct. Jaborandi.....	
Rum.....	10 oz.

To be shaken before being rubbed on.

### Styptic for Bleeding Gums:

Tinct. Krameria.....	1 dr.
Chloroform.....	8 min.
Tannic Acid.....	} of each, 4 grn.
Menthol.....	
Distilled Water.....	2 oz.

### Bleeding and Tender Gums:

Gelatin.....	30 grn.
Sodium Chloride.....	8 grn.
Carbolic Acid.....	2 grn.
Beta-Eucaine Hydrochlorate...	8 grn.
Cocaine Hydrochlorate.....	2 grn.
Distilled Water.....	3½ oz.

Use as mouth wash.

### Sore Nipples:

Balsam Peru.....	} of each, 30 min.
Tinct. Arnica.....	
Expr. Oil Almond....	} of each, 4 dr.
Lime Water.....	

Shake well and apply to the nipple with a camel's-hair brush.

**Substitute for Poultices:**

Kaolin.....	} of each, 1000 parts
Glycerin.....	
Boric Acid.....	100 parts
Oil Peppermint.....	} of each, 1 part
Oil Gaultheria.....	
Oil Eucalyptus.....	2 parts

Heat the kaolin to 212° F. for an hour to make sterile. Add the glycerin and heat for forty minutes. Stir in other ingredients and keep in air-tight jars.

—WILBERT.

**Cathartic Lemonade:**

Sodium Phosphate.....	6½ dr.
Spt. Lemon.....	20 min.
Simple Syrup.....	2 dr.
Distilled Water.....	to make 10 oz.

Take at one dose.

**Odontalgia:**

Carbolic Acid.....	} of each, 30 grn.
Menthol.....	
Cocaine Hydrochlor..	
Chloral Hydrate.....	
Guaiacol.....	30 min.

Triturate in a mortar.

**Mouth Disinfection in Infectious Diseases:**

Carbolic Acid.....	75 grn.
Glycerin.....	375 grn.
Camphor.....	30 grn.

To be applied to the buccal mucous membrane by a pledget of cotton on an applicator.

Carbolic Acid.....	75 grn.
Camphor.....	30 grn.
Olive Oil.....	1½ oz.

Use in the same manner as the foregoing.

Carbolic Acid.....	75 grn.
Alcohol (90°).....	150 min.
Camphor.....	30 grn.
Glycerin.....	375 grn.

To be used as the foregoing.

**Protective Dressing:**

Glycerin.....	} of each, 1 part
Zinc Oxide.....	
White Gelatin.....	
Water.....	3 parts

Heat in water bath. Apply several coats with brush, to protect varicose veins, ulcers, etc.

**Palatable Epsom Salt:**

Magnesium Sulphate.....	4 dr.
Dil. Sulphuric Acid.....	2 min.
Syrup Lemon.....	1½ oz.
Water.....	to make 2 oz.

For one dose.

**Meno- and Metrorrhagia:**

Ergotin Bonjean.....	3 grn.
Stypticin (Cotarnine Hydrochlorate).....	¾ grn.
Powd. Cinnamon.....	} of each, 1 grn.
Powd. Nutmeg.....	

For one capsule. One to two capsules three to four times a day, according to severity of case.

Stypticin.....	12 grn.
Hydrastinine Hydrochlorate...	8 grn.
Fl. Ext. Ergot.....	2 oz.
Oil Bitter Almond.....	5 drops

One-half to one teaspoonful three to four times a day. In cases not depending on grave organic diseases, as cancer of the uterus or calcareous arteries, this combination may be regarded as a specific.

—W. J. ROBINSON.

**Expectorant:**

Ammonium chloride, combined with one such preparation as syrup of squill, serves to loosen expectoration. If dry, plastic pleurisy be present, add ammonium iodide, as follows:

Ammonium Chloride.....	2½ dr.
Ammonium Iodide.....	1½ dr.
Syrup Squill.....	2 oz.
Glycerin.....	4 dr.
Syrup Wild Cherry.....	to make 4 oz.

Take 1 dr. every three hours in water.

**Antispasmodic Enema:**

Valerian Root.....	1 oz.
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Infuse in:

Boiling Water.....	8 oz.
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Filter and add:

Asafetida.....	1 dr.
Yolk of 1 Egg.....	

For rectal use.

**Palmar Syphilides:**

Salicylic Acid.....	20 grn.
Ichthyol.....	30 grn.
Ointment Rose Water.....	1 oz.

Apply each night and wear gloves. After the lesions have been cured, apply the following to ward off recurrences:

Calomel.....	15 grn.
Ointment Rose Water.....	1 oz.

—OHMANN-DUMESNIL.

**Tonic Syrup:**

Sodium Arsenate.....	4 grn.
Ferrous Sulphate (Pure).....	5 grn.
Citric Acid.....	12 grn.
Distilled Water.....	} of each, ½ pint
Peppermint Water..	

From 1 to 3 teaspoonfuls daily, before meals.

**Erysipelas:**

Ferrous Sulphate.....	1 oz.
Distilled Water.....	1 pint

Apply by compresses and renew every two or three hours.

**Facial Erysipelas:**

Guaiacol.....	} of each, 15 grn.
Menthol.....	
Camphorated Oil.....	1 oz.

Affected area to be painted with this mixture every two hours.

**Varicose Ulcers:**

Iodoform.....	} of each, equal parts
Salol.....	
Bismuth Subnitrate..	
Powd. Charcoal.....	
Powd. Cinchona.....	
Powd. Benzoin.....	

To be used as a dusting powder.

**Falling of Eyelashes:**

Gallic Acid.....	8 grn.
Castor Oil.....	30 min.
Oil Lavender.....	4 drops
Petrolatum.....	5 dr.

Rub small quantity in eyelids night and morning.

**Tubercular Diarrhea:**

Bismuth Subnitrate....	6 dr.
Bismuth Subgallate.....	2 dr.
Ichthoform.....	4 dr.
Codeine.....	8 grn.
Oil Anise.....	6 drops

Divide into 24 powders. Dispense in waxed papers. [An excellent combination.]



## Book Reviews

**CONSUMPTION, PNEUMONIA, AND THEIR ALLIES.** Those who follow closely the periodical medical literature are familiar with the views of Dr. T. J. Mays as to the nature of phthisis and pneumonia. The book, of some 540 pages, now before us has been written with the purpose of elaborating and systematizing those views, so as to present them to the medical profession in a convincing and permanent form. The fundamental propositions of the work may, according to the author, be summarized as follows: 1. Pulmonary phthisis in the large majority of cases is primarily a neurosis, the pulmonary disintegration being secondary. 2. Any agent, influence or condition which undermines the integrity of the nervous system will engender pulmonary phthisis, or some other form of pulmonary disorder. 3. The only remedies of value in treatment of pulmonary phthisis are those which appeal to and act through the nervous system. 4. Of special value in the treatment of phthisis is the counter-irritant action of silver nitrate injected hypodermically over the vagi in the neck. 5. Acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorder of the nervous system. The author will have great difficulty in converting the profession at large to his views, but it cannot be denied that he brings a strong array of arguments and facts in support of his contentions. In any case, whether we agree or disagree with the author, the book makes interesting reading, and is full of suggestive thought. (New York: E. B. Treat & Co. Cloth. Price, \$3.)

**THE STUDENT'S MANUAL OF VENEREAL DISEASES**, by Dr. F. R. Sturgis (seventh edition, revised and in part rewritten by Dr. F. R. Sturgis or Dr. Follen Cabot) is a unique book. It is in the form of lectures, and the style is of the confidential conversational variety so appreciated by all students. There is an abundant, or, we might say, rather superabundant use of italics throughout the book, in order to emphasize every point of importance, and every point that the author wishes to impress on the student's memory. While the entire subject of venereal diseases cannot, of course, be treated exhaustively in a book of 200 pages—for instance, the subject of the hypodermic treatment of syphilis is dismissed with a mere mention—nevertheless, as a students' manual it is excellent and we know of no other work that answers the purpose as well. It is distinctly to be understood that the book has nothing in common with the genus quiz-compend, which has been flooding the country, and which is almost without exception dry and unreliable and frequently worthless. This is a thoroughly systematic treatise, written in a most pleasant style, thoroughly up-to-date, and we would advise every student or young practitioner to procure a copy. (Philadelphia: P. Blakiston's Son & Co. Cloth, Price, \$1.25.)

It is no exaggeration, but probably an underestimation, to say that infantile sickness and mortality would be diminished fully one-half if the theory of infant feeding were in a more satisfactory state and its practice more carefully attended to. In fact, the principal part of the therapeutics of children during the first two or three years of their mundane existence consists in proper and intelligent feeding. While the laity is filled with erroneous ideas on the subject of in-

fant feeding, it cannot be said that physicians are never guilty of errors of commission or omission in this connection. Good treatises on the proper feeding of infants are, therefore, a great desideratum. While each text-book on children's diseases contains a more or less comprehensive chapter on the subject, the book before us, **INFANT-FEEDING IN ITS RELATION TO HEALTH AND DISEASE**, by Dr. Louis Fischer, is to our knowledge the first treatise devoted to the subject of infant-feeding exclusively. It is a book of over 350 pages, full of useful information. The modification of milk for children of different ages and different conditions receives thorough consideration. It also contains many formulæ for the preparation of peptonized milk, junket, milk-punch, egg-nogg, calf's-foot jelly, infants' food, etc. There are fifty-two illustrations in the work, most of them very instructive, but some of them quite useless—for instance, the pictures of a rubber rectal syringe and of an ordinary glass syringe. There is, perhaps, at times some unnecessary verbosity and repetition, and the personal element is too prominently pushed forward; but as a whole it is a useful book, though containing but little that is strikingly new. (Philadelphia: F. A. Davis Co. Extra cloth. Price, \$1.50.)

The promises and hopes that the advocates of hypnotism have held out have not been fulfilled. Not only is it not gaining a firmer foothold than it had ten or twenty years ago, but it seems to be losing ground, its use as a therapeutic measure being extremely limited and exceptional. That there is "something" in hypnotism, nobody denies. But the extravagant claims for it, the exaggerations, and the reports of fraud served to bring it into disrepute, which will take it quite some time to outlive, if it ever does. Those interested in the subject will find in **HYPNOTISM**, by L. W. De Laurence, a satisfactory treatise. The subject is treated quite exhaustively from different aspects, and while undoubtedly the author's chief object was self-aggrandizement and self-advertising, still it imparts the information usually sought for in a book of this nature. There is one feature in this book, as in all books of a similar character, that careful and intelligent readers must strongly object to: why isn't there a single reference to the original sources from which the many wonderful cases of miraculous cures, etc., are taken? How is the reader to be certain that they did not originate in the author's mind? The book is printed with clear type and is embellished with numerous photographs. (Chicago: The Henneberry Company. Price, \$1.50.)

**THE WEIRZBURG TRANSACTIONS FROM THE FIELD OF PRACTICAL MEDICINE** (Würzburger Abhandlungen aus dem Gesamtgebiet der praktischen Medizin) are appearing promptly and regularly. The fifth pamphlet of this, the first volume, is by Dr. W. Weygandt, and deals with the treatment of neurasthenia. The subject is certainly an interesting and timely one, taking into consideration the fact that as a result of the strained—or is it strenuous—life we have been living during the past two decades neurasthenia is becoming one of the most widespread affections in every civilized country on the globe. The subject is treated comprehensively, though in the treatment of this particular affection no foreigner can give us, Americans, any points. We have more neurasthenics than any other nation, and we have the most highly developed therapy. Was not even the name "neurasthenia" coined by an American? (Würzburg: A. Stuber's Verlag.)

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

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### Theories versus Facts; or Rational Therapeutics versus Empiricism

WHETHER has made an intelligent study of the history of the human race cannot fail to have been struck by the remarkable zigzag routes or pendulum-like manner in which thought has forever been traveling. It has never been in a straight direction—that is, progress has never been, so to say, continuously and uninterruptedly progressive. On the contrary, each forward movement has always been followed by one in a retrograde direction. And whenever there has occurred a reaction against any line of thought or any method of procedure, the reaction has been sure to run to a dangerous or unjustifiable extreme.

The tyranny of the French clergy and nobility is followed by the unbridled license of the sansculotte and the Reign of Terror, which are in their turn succeeded by the iron despotism of Napoleon Bonaparte. The exaggerated romanticism and somewhat sickly sentimentalism of Hugo gives place to the brutal realism of Zola; the idealism of Hegel is followed by the narrow materialism of Büchner; the heroic quantities of toxic drugs recommended by the Paracelsian give place to the infinitesimal doses of the Hahnemanian. The blood shed in abundance, and in many cases unnecessarily, by the doctor's lancet! calls forth a violent reaction, and the lancet is thrown into the junk heap—to the great detriment of some patients. The neglect of the natural means of cure by the old phy-

sicians gives rise to numbers of sects, each one having a basis for existence, but going to extremes which stamp their followers as being on the borderland of insanity. The neglect of the wonderful medicinal powers of that grand therapeutic agent, water, causes a reaction, and Father Kneipp makes water the alpha and omega of his therapeutics and gains patients by the thousands, from kings and peasants alike. The neglect of massage by the older members of the profession leads to the creation of a sect of healers, who claim to cure every disease on earth by manipulating the muscles and joints. The rather gross materialism of a large part of the medical profession, which failed to take into consideration the subtle workings of the mind and its far-reaching influence in every direction, gives birth to the delusions of the mental scientists and the insane vaporings of the so-called Christian Scientists. And so we could go on, multiplying instances indefinitely—an extreme in one direction, then an extreme in the opposite one; perhaps a repetition of the process once, twice or even more times, until at last the golden middle road is found and Truth is placed on the throne to reign supreme and undisturbed forever after.

And this brings us directly to our subject. For centuries and centuries we have administered drugs without knowing the reason for their administration or the ra-

tionale of their action. Our only guide was empiricism. A drug was given in a certain disease; if it seemed to help, it was tried again; if the number of successes was greater than the number of failures, the remedy was recommended in that disease; if it failed or seemed to aggravate the condition, it was discarded. How crude the method, how pregnant with possibilities of error, need not be dwelt upon particularly; it is quite apparent. That the method is altogether worthless is contradicted by the fact that the therapeutic inheritance left us by the centuries gone by is after all quite a valuable one.

In the nineteenth century, however, which is by all odds the most remarkable of all centuries, a notable change took place. Sertürner's discovery fell upon fruitful soil and gave an unprecedented impetus to other investigators to look for the active principles in which the real virtues of the various drugs might reside, and with the wonderful strides that chemistry has been making, this work has borne ample fruit: by far the great majority of important drugs possessing known proximate constituents have their most active principles isolated at this day. With the advance of physiological knowledge, the investigation of the rationale or the *modus operandi* of each drug became an important department of research, occupying the attention of some of the world's greatest minds. Animal experimentation was a wonderful help in this direction, it having aided us in gaining direct information as to the effect of drugs on the pulse, respiration, cardiac movements, blood pressure, nervous conductivity, etc. The development of bacteriology was another aid in the development of pharmacology. Having seen that many drugs have the power of actually killing, or of inhibiting the growth of, various pathogenic bacteria, we at once perceived very plainly why those drugs are useful in the treatment of the diseases caused by those bacteria. In short, the advances which rational therapeutics has been making during the past half-century are truly remarkable, and further advancement along those lines cannot but be earnestly hoped for by

every true scientist and physician. But here is where the danger lies, and to call attention to and warn of that danger is the chief object of these lines.

The scientific victories just referred to have caused a reaction against the crude empirical way of administering drugs of former years, and this reaction, salutary in itself, tends unfortunately, like all other reactions, to go to an unreasonable extreme. A class of physicians is now to be met with that insists upon the active principle, the *why* and the *how* of every drug. If the active principle, the *why* or the *how*, cannot be named, the drug is anathematized or at least condemned to oblivion. A few examples: Certain experiments demonstrated or seemed to demonstrate that iron is not absorbed by the system, that the same amount that has been ingested can be recovered in the feces and urine. Presto! The class of physicians just referred to at once condemns the administration of iron in anemia and chlorosis as irrational and unscientific. The bright eyes, rosy cheeks, and ruby lips, the increased strength, improved pulse, etc., that follow—that have in thousands of cases plainly been seen to follow—a course of iron treatment, be that iron in the form of Blaud's pills or some organic combination, or even in the shape of the old Tinctura Ferri Chloridi—all this counts for naught in the face of those experiments.

Sommerbrodt brought creosote prominently before the profession as a remedy in pulmonary tuberculosis. Physicians the world over tried it and found it to yield good results. Guttman was rash enough to explain the good effects of creosote by its direct bactericidal action on the tubercle bacillus. He showed that tubercle bacilli perish promptly in a solution of creosote. This increased the popularity of creosote still further. But other investigators came along and showed that creosote, in order to be effective in killing or inhibiting the tubercle bacilli, must be in a dilution not weaker than 1 in 4,000. As it is impossible to give creosote in such doses that the blood will reach a concentration of 1 to 4,000—ergo! the use of creosote in tuberculosis

is a snare and delusion. That it may do good without actually killing the bacilli—for instance, that it may render the soil unfavorable to their development; that it may prevent fermentation in the gastro-intestinal canal, and thus improve nutrition; that it may facilitate expectoration—all this is lost sight of, and actual clinical results are sacrificed at the altar of a misinterpreted laboratory experiment or an imperfect *a priori* argument.

Somebody showed that pepsin exerts its proteolytic action only in the presence of an acid, and made the unsupported statement that it is really the acid that is beneficial in dyspepsia and not the pepsin. These statements went the rounds of the medical press, and very soon pepsin was referred to by many physicians with contempt and derision, and this in spite of the fact that thousands of patients are greatly relieved and frequently cured by pepsin without hydrochloric acid—and sometimes even by pepsin combined with an alkali, the latter especially, in cases of hyperchlorhydria.

The introduction of gastro-intestinal antiseptics was a feather in the cap of modern medicine; the results of the treatment of various fermentative and infectious diseases of the gastro-intestinal tract were so much better than in the ante-antiseptics time that the verdict of a real advance made in therapeutics was unanimous. But the theorists came along and "showed" that it was impossible to disinfect the entire intestinal canal; that the germs were hidden away in the glands and folds, from which it was impossible to lure them out, and that only doses that would be sufficient to kill the patient could be expected to disinfect the intestinal canal. And this reasoning had its effect: with many physicians the intestinal antiseptics fell into ill-repute. As if it were necessary to kill every single soldier in order to win a battle!—to use Waugh's apt simile, though in the case of intestinal antiseptics the soldiers are perhaps not actually killed, but only stunned and disabled.

And so again, instances could be multiplied indefinitely; but these will suffice to

illustrate this ultra-critical tendency, and against this tendency a protesting voice should be raised. The desire to know the reason *why* is inherent in human nature and is the mainspring of progress. This desire cannot, and should not be stifled; but do facts cease to be facts simply because we cannot explain them? Were the millions of malarial patients before Laveran's discovery cured less effectively because we did not know the rationale of the action of quinine? And do we know *how* arsenic produces its remarkable alterative effects? Do we know how antipyrine reduces fever? Nobody knows how; nevertheless, these drug effects are clearly demonstrated facts, beyond the possibility of error.

Let there be no misunderstanding. There is not the least wish or intention of discouraging, or of underrating the value of, laboratory researches. On the contrary, there can be no doubt that patient investigation in the field of pathology, bacteriology, and experimental pharmacology is the only right road towards the ultimate conversion of medicine into a true science. But this time is a long way off? *Experimental* therapeutics is still in its infancy; there are too many factors to be taken into consideration before a conclusion reached by animal or chemical experimentation may be applied to the living human economy without fear of error. Such conclusions should be accepted tentatively; and an expectant attitude should be maintained toward them, until they are corroborated by clinical experience. If they disagree with the clinical facts gained at the bedside—provided these *are* facts—then let us stick to the facts, and let the speculations take care of themselves. It will probably be discovered in due time that either the experiments leading to the speculations were not performed under proper and suitable conditions, or that there was some weak link in the chain of reasoning.

Between facts and speculations, facts should always have the deciding vote, and laboratory conclusions should yield the right of road to experience gained at the bedside by thousands of careful and unbiased observers.

[Written for MERCK'S ARCHIVES]

# GLONOID: ITS PHARMACOLOGY, PHYSIOLOGIC ACTION, TOXICOLOGY, AND THERAPEUTIC USES

By H. Edwin Lewis, M.D., Burlington, Vt.

GLONOID, or what is more commonly called nitroglycerin, is a trinitrate of glyceryl represented by the formula  $C_3H_5(NO_2)_3$ . This chemical compound, which is of comparatively recent discovery, was first described by Sobrero, of Turin, in 1847. He noted its remarkable explosive properties, but it remained distinctively for Nobel, a Swedish engineer, to place its use on a practical scientific footing.

In medicine glonoid has not held a prominent place until recently. A few years ago several investigators, notably Brunton, Armstrong, and Hay, experimented with the drug, carefully studied its physiologic action, and came to the conclusion that it deserved a great deal more consideration at the hands of the medical profession than it was receiving. But several disagreeable symptoms which were frequently observed following its administration led cautious medical men to be very chary in regard to using it for routine medication. More recent study, however, of the action of glonoid, and its consequent wiser application to certain diseases, has demonstrated to the satisfaction of the general profession that few drugs at our command are more valuable in indicated conditions.

Glonoid is a pale yellowish, oily liquid, which is produced by the addition of glycerin to a mixture composed of one part of fuming nitric acid and two parts, by weight, of sulphuric acid. The whole mixture is kept at a low temperature for several minutes and then thrown into cold water. Glonoid rises to the top in the form of an oily liquid, and is thoroughly washed in order to remove all traces of acid.

The drug has a sweetish, pungent taste. Its specific gravity is 1.525 to 1.6, and while quite insoluble in water is readily so in alcohol, ether or methylated spirit. The pure form of glonoid volatilizes at  $212^\circ$  F. without decomposition, and freezes at  $4^\circ$  F. The commercial form crystallizes at  $46.6^\circ$  F. into long, slender, prismatic needles, which explode with violence when broken in the air.

In medicine glonoid is commonly administered either in its official form, which is the Spiritus Glonoidi, a 1-per-cent. alcoholic solution, or in tablets of various sizes,  $\frac{1}{100}$ ,  $\frac{1}{250}$ , or  $\frac{1}{500}$  of a grain. Although a nitrate, the action of glonoid when introduced into the body is specifically that of the nitrites,

though for some reason much more persistent in its effect. Hay<sup>1</sup> has published the results of some elaborate experiments that show that alkalis decompose glonoid with the production of nascent nitrous acid ( $HNO_2$ ). Since his results have been confirmed by other observers, there seems to be good reason for his belief that glonoid is decomposed by the alkalis of the blood when taken into the body, and that it produces its effects on the human system as nitrous acid and the salts that are formed through combination with certain chemical constituents of the blood, more particularly the sodium salts.

The initial effect of glonoid is to dilate to a marked extent the arterial blood vessels. This is brought about in two ways: first, by the direct action of the drug on the muscular coat of the arteries, and, second, by its depressing, almost paralyzing, influence on the vasomotor nerves. As a consequence blood pressure is lowered and the pulse made softer and more compressible. The capillaries participate in the general arterial dilatation and accordingly the skin, particularly of the face and neck, becomes flushed. The rapid reduction of blood pressure often produces a disagreeable sense of cerebral tension and throbbing of the vessels in the neck and temporal region, and the headache is frequently quite severe and distressing. Five minutes after the hypodermic injection of  $\frac{1}{100}$  grn. of glonoid I have witnessed with the ophthalmoscope a very marked increase of size in the retinal arteries of a healthy person.

The effect of glonoid on the heart is twofold, depending on the conditions present. If arterial tension is normal, the heart is increased in frequency but decreased in force. If, however, the tension is increased above normal from mechanical decrease of the caliber of the arteries, as in arteriosclerosis or from constriction attending vasomotor disturbance, the heart's action is increased in both frequency and force. In the first case, the heart is increased in action by the depressing effect of glonoid on the pneumogastric nerve, which effect is far more potent in increasing the heart's frequency than the usual tendency of a suddenly lowered blood pressure to slow the heart. The heart's action is diminished in force by the direct effect of the drug in weakening the cardiac muscle. But in a condition of disease, while the same forces are at work, the presence of any vasomotor disturbance is a factor in the result. The influence of glonoid in producing dilatation is *decreased* in a measure by the forces producing the

<sup>1</sup> *The Practitioner*, xxx, p. 422.

condition of tension, and so, although the muscular fibers in the walls of the arteries are relaxed, the dilatation does not take place to the extent that follows when the drug is administered in health. As a consequence a condition of blood pressure approaching the normal mean is produced, and with a decrease of the work which was necessitated by the high tension incidental to the disease, the *relative* force of the heart is increased.

Still further corroborative of the fact that glonoin is partially counteracted by a condition of arterial tension, is the fact, demonstrated by Armstrong,<sup>2</sup> which I have been able to verify to my own satisfaction, that the administration of glonoin is rarely ever followed by disagreeable throbbing and headache when increased arterial tension is present. The respiration is decreased by the depressing effect of glonoin on the respiratory center. On muscular tissue glonoin is a true poison and produces paralysis both by its destruction of the muscular function and a more or less complete annihilation of motor nerve influence.

The urine is usually increased by glonoin, both in the amount and in the absolute quantities of the urea and uric acid eliminated.

Fatal cases of poisoning from glonoin are rare and only a few are recorded.<sup>3</sup> Murrell<sup>4</sup> refers to a fatal case in a patient who took 1 ounce of glonoin but did not die for four hours. It is pretty well established that there does exist in certain patients a susceptibility or idiosyncrasy to the drug. I have one patient in whom a dose of  $\frac{1}{250}$  grn. per os will invariably produce a severe headache lasting for several hours, and have witnessed time and time again slight numbness and coldness of the extremities, slowing of the respiration, a greatly increased but weakened pulse, and a severe throbbing headache following the hypodermic injection of  $\frac{1}{100}$  grn. From my personal observation and experience with glonoin since I became more familiar with its physiologic action I am convinced that susceptibility to the drug depends on some vasomotor condition that permits it to produce excessive dilatation of the arteries. Where the vasomotor or mechanical condition is such that full dilatation is prevented, a special tolerance to the drug will be found to exist. As I have said before, Armstrong<sup>5</sup> noted this fact several years ago and reported quite a number of cases in substantiation, among which was a patient with asthma and albuminuria, who was able to take 76 grn. in

twenty-four hours after twenty-five days' use of the drug, with marked benefit and absolutely no disagreeable symptoms that could be attributed to the glonoin. Another of Armstrong's cases (a patient with nephritis and high tension) took 125 grn. in twenty-four hours with no disagreeable symptoms! Reading, of Woodbury, N. J., has reported a case of chronic interstitial nephritis which was apparently cured by increasing glonoin up to the point where the equivalent of 6 grains was taken daily. I have had no experience with such large doses of glonoin, but I have under treatment at present a patient with chronic nephritis who is taking, with marked improvement, the equivalent of 2.4 grn. daily, divided into four doses. In several cases of arteriosclerosis I have given as much as 1.2 grn. daily with marked relief of distressing symptoms referable to the disease, and absolutely no inconvenience from the drug. [In giving the quantities, the author here refers to absolute nitroglycerin; thus, 1.2 grn. of nitroglycerin will be equal to 120 minims of the official Spiritus Glonoini, which is a 1-per-cent. solution.—Ed.]

The symptoms of poisoning from glonoin are a rapid, weak heart, slow, labored respiration, cyanotic appearance of the skin, cold extremities, intense headache in frontal and temporal regions, vertigo, abolition of reflexes, disordered vision, and incoordination of muscular movements. Consciousness is not affected nor are convulsions produced. Death results from both respiratory and cardiac failure, the heart being arrested in diastole.

It is a fairly well established fact that the nitrites tend to produce methemoglobin in the blood. This product, which Witthaus says is probably a stage in the conversion of hemoglobin into hematin and globin, certainly reduces the oxygen-carrying properties of the blood. Since the results of the toxic influence of glonoin are analogous in many respects to simple asphyxia, though somewhat less in degree, it is probable that the extreme toxic effects of the drug are partially brought about by a reduction of the oxygen in the arterial current.

The most reliable antidotes to the toxic action of glonoin are strychnine, digitalis, and strophanthus. Ergot hypodermically is of practical utility, as also are the bromides in relieving the headache and congestion of the cerebral vessels. Cold applications are also useful.

A careful consideration of the physiologic action of glonoin will demonstrate its particular field of usefulness. The drug has

<sup>2</sup> *Med. News*, Oct. 31, 1896.

<sup>3</sup> Woodman and Tidy, *Jour. de Pharm.*, xxvi, p. 356.

<sup>4</sup> *Lancet*, Aug. 29, 1896.

<sup>5</sup> *Med. News*, Oct. 31, 1896.

met with much opposition from many medical men, but its promiscuous, often illogical use has been the cause of its reputed uncertain and disagreeable action. Used intelligently, with a due knowledge of its contraindications, glonoin is one of the most valuable drugs in the hands of the medical profession. Although not so rapid in its action as amyl nitrite, the effect of glonoin is of much longer duration. It is certainly much safer, especially to intrust to patients.

In all conditions of spasmodic contraction of muscular tissue, glonoin is of marked service. In angina pectoris it is equalled by no other drug, but should be given in full doses. Murrell<sup>6</sup> is one of the foremost advocates of glonoin in this disease, and to facilitate rapid absorption of the drug he recommends its administration in some stimulating mixture. His favorite formula is the following:

Spirit. Glonoini.....	}	aa	3 ss
Spirit. Chloroformi.....			
Tinct. Capsici.....			3 i
Aq. Menth. Piper.....	ad		3 i

M. Sig. A teaspoonful every four hours, with an extra dose immediately at the onset of an attack.

Murrell also advises that solutions of glonoin be warmed at least to the temperature of the body, as the drug is thus more readily absorbed. I have found that hypodermic injections of glonoin with morphine sulphate are very efficacious in angina pectoris, but for prompt relief the dose of glonoin should be at least  $\frac{1}{25}$  grn. Following an attack, glonoin should be administered in small doses,  $\frac{1}{250}$  grn. every hour or two.

The drug is very useful to relieve the dyspnea, precordial distress, and renal symptoms which usually accompany arteriosclerosis. It is also an efficient means of delaying the progress of senile gangrene and Raynaud's disease, and used early occasionally prevents their onset.

In sciatica the hypodermic injection of  $\frac{1}{50}$  grn. of glonoin combined with  $\frac{1}{4}$  grn. of morphine will frequently give marked relief when morphine alone will have no effect. Mikhalkin<sup>7</sup> claims that glonoin has very pronounced antineuralgic properties, but I have not found it very useful in general neuralgic conditions. Osler recommends the long-continued use of glonoin for relieving the high tension and pains of locomotor ataxia.

In acute Bright's disease, with increased arterial tension, the action of glonoin is very salutary, and in uremic convulsions its combination hypodermically with pilocarpine is of marked value. I have used this combi-

nation (glonoin with pilocarpine) in a case of puerperal eclampsia with a very prompt and happy result, and feel that the two drugs combined will be found on more extended use to have a very prominent place in the treatment of this dangerous malady.

Asthma is frequently benefited by glonoin, a paroxysm being often relieved immediately by a hypodermic injection of  $\frac{1}{50}$  grn.

Intestinal, renal, and biliary colic are also often promptly relieved by glonoin hypodermically, or given internally in solution with spirit of chloroform. As a means of relieving the agonizing pain accompanying the passage of biliary or renal calculi there is no quicker remedy, excepting chloroform anesthesia, than a hypodermic injection of  $\frac{1}{50}$  grn. of glonoin and  $\frac{1}{4}$  grn. of morphine sulphate.

In optic atrophy, glonoin can be prescribed with frequent arrest or retardation of the decline in vision, and occasionally its use will be followed by a positive increase in the visual acuity. The drug is often serviceable in the toxic amblyopias.

The vaunted efficacy of glonoin in all cases of sudden heart failure is based on a misunderstanding of its physiologic action. Where the heart is simply tired and flagging from an over-amount of work and unusual demands on its force and capacity, glonoin is of the utmost value. In pneumonia and hypostatic congestion of the lungs, where the right heart is unusually taxed, both in its capacity and by the work to be done, glonoin meets the condition nicely and effectively. The effect, as some writer has said, is like bleeding a patient into himself, but it has this decided advantage over venesection, that the blood is left in the body for future use. In all conditions of sudden increase of arterial tension from acute or chronic disease, and consequent embarrassment of the heart, glonoin will invariably prove valuable. But in heart failure from actual disease or abnormal changes in the heart muscle itself, or lesions of the mitral or aortic valves—conditions which are always productive of greater or less degenerative change in the myocardial structure—the drug seems to be contraindicated.

I have used glonoin with considerable success in several cases of epilepsy where the bromides had failed, and have found that the hypodermic injection of  $\frac{1}{50}$  grn. will very frequently shorten the convulsion and succeeding stupor. In two of my cases where the aura was very pronounced and significant several hours before the convulsion, I have been able on quite a number of occasions to avert the epileptic seizure by giving hypodermically  $\frac{1}{100}$  grn. of glonoin.

<sup>6</sup> *Med. Brief*, May, 1897.

<sup>7</sup> *Squibb's Eph.*, Jan., 1896.

Children seem to have a special tolerance to the drug, and several instances are on record where children have eaten a dozen or more  $\frac{1}{100}$  grn. tablets of glonoin without any poisonous effects whatever. In cholera infantum with pronounced nervous symptoms, or where the skin becomes cold and clammy, glonoin is a life-saver in frequently repeated doses of  $\frac{1}{250}$  grn. Sudden attacks of cholera morbus are relieved more promptly when glonoin is added to the routine hypodermic injection of morphine. The depleting effect of the drug makes it valuable in all forms of local congestion, notably congestive dysmenorrhea, pelvic congestion and congestion of the liver or kidneys.

In the majority of cases glonoin can be given with the best results in small, frequently repeated doses, say  $\frac{1}{250}$  grn. every hour, and often every half hour. But where the indications call for larger and increasing dosage, the official spirit should have the preference and be courageously pushed in graduated doses as long as the patient does well and shows no disagreeable effects from the drug.

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[Written for MERCK'S ARCHIVES]

## CHATS ON EVERY-DAY THERAPEUTICS

### I. REMEDIES, INTERNAL AND EXTERNAL, FOR THE RELIEF OF PAIN

By Solomon So is Cohen, M.D., Philadelphia

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THE first duty of the physician is to make an accurate diagnosis, if possible; if not, as nearly accurate as the state of knowledge allows. Then he can consider treatment. The first principle of treatment is to remove or to oppose the causes of disease. But this is not always possible, and when possible is sometimes both tedious and difficult. Meanwhile, palliative and supporting treatment may be needed. Among palliatives, pain-relieving agents are most important. Morphine, cannabis, hyoscine, and the like, and the coal-tar products, given internally, will often relieve or fail to relieve pain, and therefore should never be used merely for this purpose, unless no other course is possible. Morphine given to patients with pneumonia to quiet distress in breathing, has effectually stopped the distress—and the breathing as well.

Morphine—or, better, codeine—given to relieve pleuritic pain has also served to restrain the inflammation, but even here it should not be used for anodyne effect only; and never should it be used, either in this

or other affections, when there is danger that it will suppress the urine. Opium given to relieve the pain of intestinal obstruction, will also quiet spasm, especially if it be combined with belladonna; and used with judgment and persistence in sufficiently small doses (say,  $\frac{1}{8}$  grain of each of the extracts to an adult, every two, three or four hours), may under such circumstances prove more efficient and less dangerous than purgatives in bringing about evacuation. In the excruciating pain caused by inflammation of the frontal sinus accompanying influenza, no succedaneum will compare with a full hypodermic dose of morphine (say  $\frac{1}{4}$  grain to an adult), guarded by hyoscine hydrobromate (say  $\frac{1}{200}$  grain). The same treatment applies to the pain of renal and hepatic colic. In the early stage of otitis media in children or adults, a free dose of a suitable opiate, preferably the camphorated tincture, is often necessary and beneficial. The pain of gastric cancer, gastric ulcer, and simple gastralgia (that is to say, gastric pain of unknown causation) seems to be relieved by a good preparation of cannabis indica, better than by opiates, and with less danger of untoward consequences. A good preparation is necessary, and a full dose, just short of toxic power, is usually required. Conium, a most uncertain drug usually, will sometimes assist cannabis; the dose of this, too, must be a full one. There is much variability in the strength of the preparations of, and in the susceptibilities of patients to, both these drugs, and they must be employed with caution. Used as indicated in suitable cases, they sometimes give much satisfaction.

The coal-tar products are much used to relieve pain, both on physicians' prescriptions and by the laity on their own account. Most of the secret analgesics advertised to the medical profession and to the public, contain phenacetin, antipyrine or acetanilid; usually the last mentioned, as it is the cheapest. It is nevertheless a very bad habit to use these drugs for this purpose so freely as is the common practice. They are dangerous depressants, even when guarded by ammonium or caffeine compounds, strychnine, or camphor, as is now the rule. Their depressing power may not be apparent immediately, and they may have a legitimate use for temporary effect; but sometimes, especially in the presence of an acute debilitating infection—such as influenza, typhoid fever or pneumonia—they may depress at once, and incline the wavering issue to the side of death. Their long-continued employment impairs cardiac vigor,



and renders the patient liable to collapse under any sudden or extraordinary strain of illness or emotion. Thus they may be the remote cause of death, even after their use has been discontinued. Personally I prescribe these agents, properly guarded, only for the temporary relief of such affections as migraine; and then in very small and restricted doses. Nor do I continue this treatment for many successive paroxysms. It is distinctly a temporary expedient, to be avoided if possible. Compound spirit of ether (Hoffman's anodyne) is stimulating rather than depressing, and is useful in all spasmodic affections, and in most of the painful affections of the stomach. It may be given to maintain the relief produced by some more powerful drug.

External applications to relieve pain, however, are preferable to internal treatment, whenever they may be employed with reasonable prospect of success. Heat and cold are among the most powerful agents for such external use. But there are many cases that cannot be relieved by such means, and in which drug therapy is beneficial. Hot vapor of chloroform will often relieve earache, pending the discovery and treatment of its cause. Sometimes mere syringing with hot water will be successful; especially if followed by the continuous use of dry heat in a suitable form. Heat is often successful in the relief of lumbago and other so-called rheumatic or rheumatoid pains. I may interpolate here, however, that for the immediate relief of severe lumbago, or of wry-neck, nothing equals the intramuscular injection of atropine and morphine, the average dose being  $\frac{1}{60}$  grn. of the former and  $\frac{1}{6}$  grn. of the latter; and it is as a rule useful to follow this with the internal use of colchicine (about  $\frac{1}{100}$  grn.) and methyl salicylate (birch oil or oil of wintergreen) about 3 or 5 min., in capsule, with water, every hour for eight or ten hours the first day, and in diminishing number on succeeding days. In painful affections of the muscles and joints—rheumatic, rheumatoid, gouty, neuralgic and of unknown origin—I have seen striking and immediate relief in some cases, and more prolonged in others, from the external use of oil of gaultheria, or oil of birch, well rubbed in over the painful area. In acute articular rheumatism the friction and motion are contraindicated, so that a linen cloth saturated with the drug may be placed over the joint, and over this a piece of oiled silk; the whole to be covered with a wool or cotton wrapping to preserve heat. In some cases a clay dressing, saturated with the

salicylic oil, answers a doubly useful purpose.

Another drug useful in relieving the pain of muscles and nerves, and the inflammation of serous or fibrous structures, is guaiacol. For example, in the pain of periostitis, or in pleurisy, local applications of guaiacol over the seat of disease will often give relief. The combination of gaultheria oil and guaiacol has thus a somewhat wider range of application than has either drug singly. An effective means of so applying them is to make an ointment with petrolatum, cerate, or wool-fat, or a combination of these bases, according to the consistency desired. This may be placed in a tin tube for dispensing, and the method is the cleanest and most economical that we can use.

Sometimes menthol, camphor, chloral, oil of peppermint, oil of capsicum, oil of cloves, oil of mustard, or several or all of these agents may be added to the mixture, according to the effect desired. In acute pneumonia and in acute pleurisy I have ordered the chest to be rubbed with an ointment containing about 10 minims each of gaultheria oil and guaiacol, 5 grains of menthol, and 2 minims of mustard-oil to the dram, the base consisting of equal parts of cerate and wool-fat. The necessary instruction is to use but a small quantity of ointment, and to rub it in long and well. In chronic affections the mustard may be omitted, and, especially if there be neuralgic involvement or complication, camphor, or camphor and chloral, may be substituted.

If equal parts of camphor and chloral are rubbed together we get a liquid that may be painted over painful parts; or camphor, chloral and menthol, similarly liquefied, may be used. Latterly, however, I have given up this form of application, as the incorporation with an ointment base and the good rubbing-in that may thus be given render possible not only better physical results, but also have a certain psychic effect not to be despised.

I have no invariable, routine formula for all sorts of pain in all sorts of patients, but the following may be taken as average prescriptions:

Oil Gaultheria.....	} of each, 15 min.
Guaiacol.....	
Menthol.....	10 grn.
Wool-fat.....	} of each, 2 dr.
Cerate.....	

Dispense in tin tube. A small quantity (about the size of a pea) to be well rubbed in over seat of pain, night and morning.

In neuralgic headache and intercostal neuralgia the foregoing mixture has proved serviceable.

Oil Gaultheria.....	} of each, 20 min.
Guaiacol.....	
Camphor .....	
Menthol .....	} of each, 15 grn.
Oil Cloves.....	
Glycerin.....	} 5 min.
Petrolatum.....	
Cerate.....	
Wool-fat.....	
	} of each, 1 dr.

A small quantity to be well rubbed in over seat of pain.

This latter formula has given much relief in a case of painful finger joints due to chronic gout. Much larger quantities of the active ingredients—up to saturation, indeed—may be used. Sometimes pure iodine may be incorporated with one of these ointments, for sorbefacient effect. I have also seen gratifying relief in some cases of sciatica, lumbago, pleurodynia, chest pain of pulmonary tuberculosis, chronic muscular rheumatism, rheumatoid arthritis, syphilitic and tuberculous periostitis, and the like, from not dissimilar preparations. Some cases have not been relieved, and some relieved but slightly.

For the relief of the pain of laryngeal tuberculosis, which is most excruciating, especially when there is ulceration of the epiglottis, I have seen better results from the use of orthoform locally than from any other application I have used. I have it made into lozenges, about  $\frac{1}{8}$  grain in each, with marshmallow or fruit jelly as the base, and the patient is instructed to allow one to dissolve on the tongue, placing it as far back as possible, about five minutes before each meal. For insufflation into the larynx and around the epiglottis, I employ a powder of orthoform, adrenal extract, and iodoform, equal parts.

Solution of adrenal substance, properly filtered, is a useful agent to relieve pain due to distension of accessible blood channels, as in the conjunctivitis of pink-eye, the nasal and sinus inflammations and engorgements of hay-fever and of grip, the headache of chronic ear-disease, some forms of painful swelling of the urethra—perhaps chordee, etc. Adrenalin chloride in solution, from 1:5000 to 1:500 may be employed similarly. There is danger, however, in its excessive use, for I have seen edema of the uvula and of the epiglottis result therefrom. As small doses relieve these conditions, there is in this an apparent grain of comfort for our homeopathic friends; diminished, however by the fact that they have not given this therapy to the world, that their theory does not refer to topical applications, and that the cause is probably a paralysis of vessels due to reaction from overconstriction—the paralysis of exhaustion.

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[Written for MERCK'S ARCHIVES]

## THE USE OF SUPRARENAL GLAND IN PERITONSILLAR ABSCESS

By Lewis S. Somers, M.D., Philadelphia, Pa.

WHILE much has been written in commendation of the therapeutic efficiency of the suprarenal gland in various affections of the respiratory tract, yet proof is wanting in many of the diseases in which it is supposed to be of value, as to the somewhat extravagant claims made for the drug. All observers, however, are agreed as to the major action of the remedy being that of a pure astringent, and to the fact that when a solution of the gland is brought for a short time in contact with a mucous membrane, the parts become shrunken and to a greater or lesser extent are rendered bloodless. From clinical and experimental evidence this activity depends upon the contractile power of the extract on the small arterioles, the physiological effects of blanching and shrinking being most prominent when it remains in contact with the tissues for several minutes. As previously noted<sup>1</sup> from a careful study of the drug, one is warranted in the statement that it possesses remarkable powers as a hemostatic and vasomotor constrictor, being immeasurably superior in this respect to any local astringent that we possess.

With these characteristics, the indications for the use of the drug in both acute and chronic inflammations of the upper respiratory tract are markedly evident, and while in itself it is not a specific, yet it is of decided value as an aid to other local and general remedies in various affections of this and other portions of the economy. As an aid to other remedies it fills a well-defined place, as in simple tonsillitis; in practically all cases the excess of inflammatory action can be restrained by the spray of the aqueous solution, while the somewhat slower constitutional therapeutics is being carried out, and at the same time the use of the extract increases the effect of any local medication that may be used in addition. This is notably so in the case of cocaine, and while this effect is most marked upon the nasal mucosa, yet it is of sufficient import to be of value in the treatment of various acute affections of the pharyngo-laryngeal mucosa, as it will often control hyperemia and frequently abort an incipient inflammation.

The results obtained from the local use of the drug in tonsillitis depend upon the method of application, the time during which the drug can be kept in contact with the inflamed tissues, and the extent to

<sup>1</sup> MERCK'S ARCHIVES, June, 1900.

which the vascular changes have advanced when the case first comes under observation. Mullen<sup>2</sup> states that inflammation of the tonsils can be controlled, benefited, and frequently aborted by the early use of the gland, especially when accompanied by appropriate treatment. Bates<sup>3</sup> claims that all forms of tonsillitis are temporarily relieved by the local use of the extract, and while it does not cure any disease of the throat, its great value is in changing a severe inflammation into a mild one, so that the usual remedies are better able to cure. In a further communication by the same author<sup>4</sup> the statement is made that in all forms of tonsillitis, including peritonsillar abscess, the suprarenal gland relieves the redness, the swelling, and the pain.

The method of application plays an important rôle in the results obtained when the drug is applied to the mucosa. In the nasal chamber a small pledget of cotton saturated with the solution may be readily placed on the parts desired and the maximum effect of the application obtained in a few minutes, but this procedure is impossible in an extensive tonsillitis, the usual course under these circumstances being to use a spray of the aqueous solution, frequently repeated. This, however, has many objections, the principal one being that as the tissues are covered with tenacious mucus constantly produced in excessive quantity, the aqueous character of the spray prevents it remaining in contact with the inflamed area for a sufficient length of time to be of material benefit, although a certain degree of ischemia is invariably produced. It has been my habit, therefore—and I believe the most satisfactory results are thus obtained when the remedy is used for this purpose—to have the desiccated gland in amounts of 5 grains placed in capsules, and the patient is instructed to empty one upon his tongue and thoroughly masticate it, retaining it as far back in the oro-pharynx as is possible from five to ten minutes, and then cleanse the mouth with hot or cold water, depending upon the individual peculiarities of the case. If desired, the patient may swallow the drug, but as I believe it to have no effect when administered internally,<sup>5</sup> and as it is apt to produce nausea from the excessive amount of animal matter present, I direct him to eject it from the mouth when he feels he can no longer retain it.

As is well known, one of the disagreeable features of tonsillitis and especially of abs-

cess of the tonsil, is the outpouring of mucus, which frequently is in such excessive amounts that the patient is constantly drooling it from the mouth, the least attempt at swallowing even of the saliva causing excruciating agony. Suprarenal in a minor way distinctly limits secretion, and when employed in the manner suggested, the excessive secretion is not as annoying and deglutition is not impaired to the same extent as in cases in which the adrenal is not used. Its action in this respect can be readily understood, on account of the diminished activity of the mucous glands resulting from the lessened local vascular supply.

Of great importance is the effect of the drug in diminishing and frequently dissipating localized edema when limited to exposed mucous surfaces. In my hands it has been possible in a few hours to produce complete disappearance of edema of the uvula, whether due to a localized inflammation or the result of more extensive reaction. While I am unable to find any reports in the literature in which the drug was solely used for this purpose, yet several cases appear in which striking results were obtained in edema of the glottis and especially notable was the case seen by H. H. Curtis,<sup>6</sup> in which he was of the opinion that without the use of the adrenal, tracheotomy would have been necessary. Such a case has recently come under my observation in private practice in which there was not the least shadow of doubt that the adrenal saved the patient from a serious operation and dissipated the glottic edema which was rapidly inducing suffocation. Similarly, as regards the presence of edema, was Boeker's case,<sup>7</sup> in which acute edema developed suddenly during erysipelas. Six grains of the desiccated gland were placed on the patient's tongue and allowed to dissolve, with the result that decided amelioration occurred in five minutes and uninterrupted recovery followed.

The so-called abscess of the tonsil, or quinsy as it is most frequently named, is in reality not a purulent collection in the parenchyma of this gland at all, but in the vast majority of cases the pus collection is situated in the peritonsillar tissues and occupies the fossa of this name, immediately posterior to the palato-glossus muscle and embracing the superior portion of the tonsil proper. In the comparatively infrequent cases of acute abscess of the parenchyma of the tonsil, the addition of the suprarenal gland to whatever treatment may be indi-

<sup>2</sup> *Jour. Amer. Med. Assoc.*, xxxii, No. 20.

<sup>3</sup> Paper read before N. Y. County Med. Assoc., Feb. 26, 1900.

<sup>4</sup> *Annals Otol., Rhinol., and Laryng.*, Feb., 1900.

<sup>5</sup> *Phila. Med. Jour.*, Dec. 8, 1900.

<sup>6</sup> Quoted by W. H. Bates, *Jour. Amer. Med. Assoc.*, xxxv, No. 6.

<sup>7</sup> *Ibid.*

cated will aid to some extent in modifying the symptoms, but its greatest field of usefulness is in those cases where the pus collection is situated in the tissues above designated. As the larger number of these cases occur in individuals with a more or less distinct rheumatic history, general treatment directed to the constitutional diathesis is always indicated, and whatever local treatment the practitioner is in the habit of using should not be omitted, the suprarenal being used only as a valuable adjuvant and not as a specific in itself.

The result obtained in the majority of instances will be most gratifying, as illustrated by the following cases:

A man of forty-two years complained of an acute sore throat, which had developed but a few hours previously; stated that he had been subject to quinsy for over ten years and would have from two to three attacks every year, lasting from ten days to two weeks, with abscess formation. Between these attacks, attended with pus formation, periods of sore throat would develop, and while annoying would last but a few days. The inflammation would be most marked upon the right side, upon which the abscess always developed, while to a lesser degree the left side was also involved. On examination, the right anterior pillar was red, somewhat swollen, and adherent to the tonsil. The supratonsillar fossa was well marked. The case was seen again in two days, and presented the typical picture of acute unilateral tonsillitis, without much evidence of abscess formation. On the day following, the picture of peritonsillar abscess was complete; the anterior pillar was distended, edematous, and with the tonsil almost reached the median line. The uvula was enormously swollen from edema and completely shut off oral respiration, being firmly wedged against the base of the tongue below and pressed against the pillars on both sides. Deglutition was impossible, phonation painful and almost inaudible, glottic edema evidently being present to some extent, and respiration was decidedly impaired. He was then directed to use 5 grains of adrenal gland by holding it in the mouth, retaining it as long as possible, this to be repeated every hour. Four hours later he appeared in my office, and instead of the drawn, haggard face so characteristic of this condition, the aspect was entirely changed; he stated that the pus had been evacuated but a few moments previously, and after the adrenal had been applied on the tongue for the first time the swelling commenced to diminish and he considered himself well. Examination

showed that the enormous edema present but a few hours before had entirely disappeared; the parts, while still red, had more nearly approached the normal, and a most offensive pus was discharging from the supratonsillar fossa. After having been unable to partake of food for several days, he was now able to eat a full meal, and no further trouble was experienced.

The lesson taught from this case, while of a positive nature in regard to the beneficial results obtained from adrenal in the treatment of peritonsillar abscess, yet presents another and important aspect—being a negative one—that the results obtained in part were due to the situation of the pus collection. Had the abscess been located deep in the tonsillar tissue, the adrenal like any other drug would have been worthless and the pus would have required evacuation with the knife. In this case the pus formed in the pocket developed from the adhesion and swelling between the anterior pillar and tonsil, and any remedy that would reduce the temporary barrier would of necessity allow of its free escape. This should be carefully borne in mind, as the adrenal is of aid only when used in peritonsillar abscess, to reduce the swelling, and will never evacuate the pus if it is situated deep in the tissues or parenchyma of the gland.

The following case, not as severe as the former in regard to the edema present, had the same satisfactory result:

A man of twenty-nine years complained of sore throat limited to the right tonsillar region. The mild degree of inflammation had entirely disappeared in three days, when he was exposed to a severe chilling at night and within twenty-four hours the pain in the part previously affected was intense but intermittent, disappearing completely for several hours at a time. This continued for several days, when he was again seen, and on examination a typical peritonsillar abscess had developed on the right side. There was a mild grade of edema involving the anterior pillar, and to a less extent the uvula; the pillar was adherent to the tonsil and the parts were considerably swollen. The salicylates had been administered since the inception of the attack in conjunction with appropriate local and general treatment, and the disease was running the usual course. The patient was advised to have the abscess evacuated, but he refused, so the desiccated suprarenal gland was used in the same amount and manner as in the previous case. Within a few hours great relief was experienced, deglutition became less painful, the excessive secretion diminished to a

considerable extent, and the abscess discharged without its being necessary to resort to the bistoury.

Since using the adrenal in this manner I have seen other cases of tonsillar abscess in which the pus was deeply seated, requiring evacuation with the knife. But while in these the results were not so fortunate as in the two cases here recorded, sufficient improvement was obtained—both in regard to the comfort of the patient and the reduction of the excessive edema and swelling, so that the jaw could be opened wide enough to allow of careful incision into the abscess—to warrant a further use of the drug in this condition.

As the suprarenal gland is non-toxic [?], it may be used in any dose desired, 5 grains in my experience being sufficient to produce the required action in this location, although it is advisable to repeat it more or less constantly until the tissues lose their inflammatory hue and the edema has disappeared. On account of its harmlessness it is peculiarly adapted to the treatment of inflammation in this region, and as it is also non-irritating, possessing no deleterious after-effects, and may be repeatedly used on the same individual without losing any of its power, it forms such a valuable adjuvant that after one has used it, he would not care to be without it in treating a case of tonsillitis.

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[Written for MERCK'S ARCHIVES]

### THREE WELL-KNOWN DRUGS

By Harvey J. Chadwick, M.D., Grand Rapids, Mich.

**QUININE.**—The uniform success attending my treatment of pneumonia and bronchitis in infants during the past two years, principally by quinine inunctions, has led me to call attention to this fact, and several others concerning this drug; not that what I state is in any sense new, but for fear that in the great confusion of new drugs we are daily entreated to use, we may forget the tried and proven ones and so lose more than we gain.

The method of procedure is as follows: Use about 1 dram of quinine to 1 ounce of salad olive oil. Strip the child in a temperature of about 80° or warmer, wash the body thoroughly, clean with soap and water, and wipe with a Turkish towel, then grease the body all over with the quinine inunction and wrap in a woolen blanket. Keep the room of an even temperature, at about 75°, vinegar or turpentine water simmering on

the stove, and give the patient plenty of water to drink.

In spasmodic croup, quinine is a specific. Give from 3 to 5 grn. mixed with a little cold water, and repeat in three hours if the attack is not over. In membranous croup you cannot begin treatment in a better way, as these two croups are so frequently associated or one taken for the other. We have a remedy in quinine suited equally well in either case, and fortunately it may be given in the same manner. It will not do to give quinine in these cases disguised; it must come in contact with the throat as well as be absorbed into the circulation.

My sheet anchor in diphtheria for fifteen years has been quinine on the throat every two hours, sleeping or waking, during the attack. Of course I have used some iron, steaming, and paid due regard to hygienic surroundings, but quinine has been my antitoxin.

In obstetrical cases I have adopted the rule, as soon as the patient experiences the least headache after confinement, of giving from 4 to 6 grn. of quinine every four hours, until ringing in the ears is unmistakably present. I as frequently give a dose of quinine, as I do of ergot if I fear postpartum hemorrhage, and I believe with as good results, and with less danger of sepsis during recovery. As I never have had a fatal case of postpartum hemorrhage, I believe the practice a good one.

Were I personally suffering from tuberculosis to-day, I would rather risk quinine, as a constitutional remedy, and iodine by inhalation, than any other combination of drugs, notwithstanding the late popular reports on arsenous acid, which I believe to be of value.

**Iodine.**—I first began the use of iodine some twenty years ago, as an external application in goiter, and I have met with considerable success in treating these troublesome enlargements of the neck. I believe the majority of these cases will yield to external applications if treatment is begun early. In housemaid's knee I have used iodine with success in every case. In any glandular enlargement of the body, I coat it with Lugol's or Churchill's solution. Cysts and hydroceles are destroyed by it, and the tissues composing them made into normal and healthy structure. To paint the chest with iodine after an attack of pneumonia will promote absorption quite as effectually as a blister, and is a much more pleasant procedure for the patient.

In connection with pure air and proper food, I am confident we have no better remedy in existence in pulmonary tubercu-

losis than the following well-tried inhaling fluid:

Tinct. Iodi Comp.....	3 i
Acidi Carbolic.....	3 i
Tr. Tolutanæ.....	3 ss
Alcoholis.....	3 i
Chloroformi.....	3 ss.

To be used five or six times in twenty-four hours, by inspiring air through the fluid, by means of two glass tubes—one reaching to the bottom of the bottle containing the fluid, and one for a mouth-piece, extending just through the cork.

One of the most striking cases I have ever treated with the solutions of iodine was in a necrosed humerus, in a young man about twenty years of age. While reaching a support overhead he drew himself up in the act of climbing. The weight of his body broke the humerus, and split off—as I found by cutting down—two or three pieces of bone the size of a ten-cent piece. These were cleaned out, a plaster cast applied with an opening over the incision, and a solution of iodine injected to the bone twice a day after washing away all the discharges. In about two months union was established and the young man had good use of his arm, the external opening healing perfectly.

In another case of compound fracture of the humerus, caused by a hand-car running over the lower end of the humerus—injuring the elbow joint, one fragment projecting through the skin below the elbow, another projecting through the skin at the inner side of the biceps—there was great contusion of soft parts; great swelling and much suppuration followed. I am confident there would have been no hesitancy in the minds of most surgeons in resorting to immediate amputation. I placed a plaster cast, with an opening, at the puncture of the fragment above, another at the lower opening, after the arm had swollen about as large as I thought it would. I kept these punctures open, and injected daily compound tincture of iodine until union took place, which was in about two months, although two fragments of bone came to the surface and were extracted long after the injury, one four months, and the other later, yet in six months the man was able to shovel sawdust as a fireman.

These are little matters when compared with what iodine will do in the treatment of metritis, ulceration, and erosions of the uterus. Every one these days has a desire to curet the womb. One gynecologist said to me that you must scrape on the inside of the womb until you can feel and hear the instrument grate on the muscular layer below. This is not necessary. A better way is to inject about 5 drops of a solution of iodine once in six days. It will cure as

effectually, with less danger, and will be more satisfactory to all concerned.

*Sodium Sulphate.*—Another good remedy, quite forgotten by many as a prompt physic, is sodium sulphate, and with this drug as with all others, you should be sure of a chemically pure article. I have used Merck's for a long time, and have never been disappointed. It not only empties the bowels effectively and promptly, with the least possible disturbance, but a laxative effect follows for three or four days after. I give a teaspoonful in a glass half full of hot water. This makes a clear solution, which can be cooled if more desirable to take. There is nothing so important in the beginning of any disease as a clean *prima via*—but in accomplishing this object you must do it with as little irritation as possible, and for this sodium sulphate is *the* remedy.

[Written for MERCK'S ARCHIVES]

## SODIUM BROMIDE IN THE VOMITING OF PREGNANCY

By J. J. Tribble, M.D., Waverly, Ill.

ONE of the recollections of my student days, when taking part in a "quiz," or an examination in materia medica, is that it was fairly safe when no other use for a drug could be thought of, to answer that it was of service in the vomiting of pregnancy. Perhaps it is because some of the cases of this distressing malady are so refractory to treatment that there is such a large number of remedies recommended for its cure.

Some years ago I was called to see a woman in the sixth month of pregnancy, who had been unable to retain any food on her stomach for nearly a week. She had been given various drugs by different physicians with no apparent benefit. As soon as she swallowed food, medicine or even water, it came up, attended with violent retching. On examination the position of uterus and condition of the os were found to be normal, and it was quite evident to me that the condition was one of reflex nervous irritation. It occurred to me to resort to large doses of sodium bromide by the rectum. Accordingly, 40 grains of the bromide were dissolved in a sufficient quantity of water and injected into the bowel. The nurse was directed to repeat this every three hours until vomiting was relieved. On returning the next morning, I found the patient had eaten and retained a good breakfast of milk and eggs. By the continued use of the bromides as above, but in smaller doses as condition seemed to indicate, the case pro-

gressed favorably, the vomiting finally ceasing altogether.

About two years after the occurrence noted above, I was called in consultation to see this same woman. I found her about six months pregnant, vomiting, all conditions as before, and remedies of various kinds had been tried to no avail. We resorted at once to the bromides per rectum, and with the same good result. Patient went to full term, and gave birth to a healthy child.

In this instance the conditions underlying the case were evident. The irritation of the nerves by the gradual enlargement of the womb was the cause of a reflex nervous condition, which explained all the symptoms. Now, the question is, will we not find the same etiological factor at the base of all these cases of excessive vomiting of pregnancy, viz., reflex nervous disorder? It is probable that not every case can be handled successfully with the bromides alone; but if we will once admit the primary cause—reflex nervous action on the stomach—we will, with the aid of the bromides given as advised, achieve gratifying results. We know that this reflex condition may be brought about by the different varieties of uterine displacements, pathological conditions of the cervix, etc., and, of course, rational treatment will then be directed to restore conditions to as near normal as possible, before, or at the same time that, we use the nerve sedatives. Dilatation of the cervix has been recommended and practiced very successfully, but admittedly with the danger of abortion, whereas the bromide treatment is harmless. It would seem to the writer to be the part of wisdom to try the use of the bromides per rectum first, and dilatation if necessary after.

Since treating the case cited, the writer has had several cases of vomiting of pregnancy not so pronounced, and all have yielded rapidly to the bromide treatment.

## TREATMENT OF CHRONIC NON-EXUDATIVE NEPHRITIS<sup>1</sup>

By J. B. McGee, M.D.

Professor of Therapeutics, Cleveland College of Physicians and Surgeons.

THE treatment of non-exudative nephritis is essentially symptomatic in character. While a cure, however, is out of the question, as no agent will restore the degenerated structures nor wholly check the characteristic changes, medical means may retard the rapidity of its course, relieve the serious symptoms, and possibly avert the

dangerous complications so liable to ensue. The most we can hope for, then, is to render the patient comfortable and to lengthen life, and the important indications in a remedial way are to avoid excess and exposure, to reduce vascular tension, and to sustain the heart when it begins to fail. Extreme mental and physical effort should be avoided, alcoholic drinks and nitrogenous foods used sparingly, if at all, while attention to clothing, warmth and secretions would seem imperative. The diet requires careful consideration, and while milk in some form is almost universally advised, its use exclusively is now seldom insisted on; on the other hand, a full diet increases tension, with the added risks which such an increase implies, and a mixed diet, largely milk, and adapted to the special case, is to be preferred, the general condition of the patient being the best index to follow.

The condition of the circulatory system is perhaps as important as that of the kidney, and as long as a good circulation is maintained, the risk of uremia is greatly lessened. In the earlier stages a rapid pulse of high tension is an index of commencing cardiac change, and with an excess of hypertrophy a cardiac sedative is needed, and at this time veratrum viride, with its well-known power of lowering tension as well as quieting cardiac action, will often be of value. As there is a definite relation existing between the high tension and many of the conditions present, its lowering is a prime indication for the relief of the series of symptoms dependent upon this vascular change, and nitroglycerin, with its prompt power as a vasodilator, is probably the general favorite of the profession for this purpose; an increase of pressure within a weakened vessel means possible rupture, and no other agent is so valuable in these cases as well as when the renal lesion is the local expression of a general endarteritis. It is stated that a tolerance is established for the drug in this disease and its dose should be gradually increased, but it is generally well borne and some patients will take with benefit relatively large doses. As it is a drug which is eliminated rapidly, it should be given at short intervals to maintain its effect, and it should be dropped for a few days every few weeks, resumed in a small dose, and this increased till the effect desired is obtained. The iodides, too, exert a favorable action and probably lessen tension, and may be used when we desire to discontinue the nitroglycerin for a time. While compensation is complete, no active cardiac treatment is indicated; but in the later stages of the disease the heart muscle

<sup>1</sup> *Cleveland Jour. of Med.*, March, 1901.



is apt to become weakened by the action of the toxins in the blood, the anemia, and the extra work imposed upon it in overcoming the increased resistance due to arterial change. Under the strain it may be unequal to its task, and when evidence of deficient compensation occurs, digitalis and its allies are indispensable.

Although digitalis is of especial value when tension is low and generally contraindicated when it is high, yet union with nitroglycerin will counteract its tendency to contract the vessels, aid its heart action by lessening resistance, and increase diuresis. The objection has been advanced that the effect of the nitroglycerin is largely lost before that of digitalis is expended, but practically the combination is an efficient one. Sparteine and strophanthus are of value, and neither appreciably increases tension, while caffeine, theobromine and strychnine may at times be useful as supplements or substitutes. The symptoms which at times demand active aid are anemia, uremia, and dropsy. Although anemia is neither so decided nor so frequent as in the exudative form of the disease, yet, when existing, here as elsewhere iron is essential, and there is some difference of opinion as to which preparation to employ. It is now generally asserted that the organic forms of iron are alone absorbed, and while they frequently act well, yet we know that clinically certain cases improve under inorganic treatment, and in this form of anemia I have found the tincture of ferric chloride, although rather disagreeable to take, still one of the best of chalybeates; given in small doses and combined with about  $\frac{1}{100}$  grn. of the mercury bichloride three times a day, it rarely fails to be of aid; it improves the weak heart's nutritive supply, and the mercurial doubtless enhances its beneficial influence. We should remember, however, that whatever form of iron is chosen is simply of value for the anemia, and if given when this is absent, it may do harm.

One of the great dangers is uremia, and coma rather than convulsions is here its more common form of expression. General means may avert it to a great extent, and in mild cases free purgation, and water taken freely may relieve it, insuring the excretion of the toxins presumably present; in fact, elimination in some form is the essential in any method of treatment. In severe cases prompt purgation, and, if the heart be strong, pilocarpine hypodermatically, are usually efficient. The present trend of professional testimony, however, is largely in favor of the saline solution, used intravenously, perhaps with previous vene-

section if the case be urgent; or, if more time be allowable, hypodermoclysis, provided the tissues are not so edematous as to interfere with absorption; in the latter case enteroclysis may be employed. The method of action is, of course, evident, depending on dilution of toxins in the blood and rapid renal elimination, and, as no other agent promises better results, it appears at present to be the remedy of choice.

Dropsy occurs in the later stages and requires purgation and diuretics, with support to the weakened cardiac muscle until, if possible, compensation is restored. Ascites, which is sometimes met, is generally due to coincident hepatic cirrhosis, and calomel especially is a most efficient aid. Like digitalis, its diuretic action seems largely to cease when dropsy disappears, but it is still valuable by increasing secretion and its effect on the circulatory system. Personally, the author uses calomel during the general dropsical condition, and later the bichloride, either alone or as an adjunct to the iron when this is indicated. As to the manner in which calomel produces diuresis, it has generally been ascribed to its direct action on the renal tubules, but another plausible theory appears to be that it increases the excretion of urea, and urea is well known as one of the best diuretics. The apocynum cannabinum, or Canadian hemp, also known as black Indian hemp, is an agent that has frequently yielded the author satisfaction, and the time-honored and very efficient combination of digitalis, calomel and squill has advocates even to-day.

A possible risk in the use of opium or its derivatives in these cases certainly exists, and although high authority occasionally recommends it, in the author's opinion the older position of regarding its use as dangerous is the safer one, and he gives it tentatively and in small doses, if at all. Occasionally cases are complicated with a diarrhea, and it is a question whether it should be suddenly checked; it is often an effort at elimination, and its rapid cessation by opium or astringents might impose on the impaired kidneys an added strain, and if unequal to the demand, serious results might follow.

**DIURETIC MIXTURE**—Potassium citrate,  $2\frac{1}{2}$  dr.; potassium bicarbonate, 80 grn.; spt. nitrous ether, 6 dr.; fld. ext. triticum, 6 dr.; syrup of lemon,  $1\frac{1}{2}$  oz.; infusion of flaxseed [(5 per cent.) macerate the whole flaxseed in cold water for half an hour, and strain], 5 oz. A tablespoonful in a glass of water, every one to three hours, until diuresis sets in.



## CANTHARIDIN AND ITS USES<sup>1</sup>

By William F. Waugh, M.D.

CANTHARIDIN,  $C_{10}H_{12}O_4$ , constitutes from 0.3 to 0.5 per cent. of cantharides, from which it is extracted by chloroform. Cantharidin is the anhydride of cantharidic acid, and crystallizes in rectangular, colorless plates, slightly soluble in water or in cold alcohol, readily soluble in hot alcohol, in ether, chloroform or fatty oils. By taking up water, cantharidic acid is formed, which unites with alkalies to form water-soluble salts.

Liebreich attributes to cantharidin the essential effects of cantharides. Comparing the results of cantharidal vesication with those of other blisters, he attributes the special effect of the former to the cantharidin absorbed. The salts in solid form are liable to decomposition, but potassium or sodium cantharidate can be administered by the stomach or hypodermically, in a weak alkaline aqueous solution.

Animals can be fed with non-toxic doses for months without perceptible ill-effects. If the dose be increased but still kept below the toxic limit, the kidneys become soft, not hyperemic, serum-soaked, showing that the capillaries allow transudation of serum to an abnormal degree. Cantharidin has then a special action on the capillaries.

Are these merely passive channels for fluid transmission, or have they a special function like other body-cells? Heidenhain showed that the capillaries can be specially influenced by chemical substances. At any rate, cantharidin coming in contact with the capillaries causes them to exude more serum. It may be inferred that the capillaries of each different organ functionate in their own special manner. As cantharidin in larger than the usual doses causes an excessive transudation, it may be assumed that in smaller doses it has a similar though imperceptible effect. If any organ is so diseased that the serum-secretion of its capillaries is impaired, cantharidin may tend to restore normal secretion, even in doses as yet too small to affect the kidneys. This increase of serum-excretion necessitates a large supply of nutriment to the affected cells, so that the latter are strengthened. Hence, cantharidin is useful when disease is due to external action, or to affections of the tissues. This explains the general tonic action noticed as following the use of cantharidal blisters. This is especially the case when micro-organisms attack the tissues, weakened by previous disease or traumatism. Pulmonary tuberculosis is especially

a fit example. Petteeruti reports three cures by cantharidin.

When toxic but not lethal doses are taken, they cause gastric burning and pain, great thirst, the salivary glands swell and discharge freely, the pulse slows, diuresis and diaphoresis appear, with strangury, tenesmus, and diarrhea. The symptoms disappear in twenty-four hours, leaving no ill trace. In severer poisoning, nausea and vomiting occur. The appetite may become ravenous, the pulse irregular, filiform, and rapid. Urine is increased, with pain and strangury between micturitions, increasing as the urine becomes bloody, with leucocytes and fibrinous coagula in evidence. Consciousness is unaffected, but there are trembling and perhaps convulsions. Even here recovery may follow rapidly.

In fatal poisoning there are acute gastritis and enteritis, spasm of the esophagus, dysphagia; drinking is impossible, as in rabies and atropine poisoning (Nothnagel); there is vomiting and violent diarrhea, bloody dysentery and the urine is suppressed. Cantharis does not excite sexual activity, the severe priapism, turgidity, and even gangrene of the penis, being in no sense pleasurable. In pregnant women it may cause abortion, without exciting sexual desire. Some authors fail to comprehend that irritation of the sexual organs is not the same as stimulation of the sexual sensation. A blister on the glans would not accomplish the latter object. Large doses of cantharidin taken internally cause burning in the urethra and albuminuria. The latter often follows fly-blistering (Gubler), ceasing when the application is removed. Small animals given cantharidin,  $\frac{1}{8}$  grn., presented glomerulo-nephritis, the cells of the tubuli uriniferi were congested, with hemorrhages in the renal and tubular tissues.

Nothnagel attributes the affection of the genito-urinary tract to the local action of the cantharidin excreted by the kidneys. Schachowa noted the presence of numerous bacteria in the urine when toxic doses were given, and these persisted until death. The reaction was alkaline. Fat appeared on the eighteenth day of the continuous administration. Albuminuria occurred only on the third day and not afterwards. He found the alteration limited to the epithelium of the tubuli uriniferi, which was discharged as epithelial and fatty cases. The glomeruli, capillary network, connective stroma, and membrana propria were unaffected, save for slight thickening of the latter from maceration with serum. Small doses are excreted by the spiral renal tubules; larger doses by the part nearer the glomeruli and by the

<sup>1</sup> *Alkaloidal Clinic*, 1901, p. 281.

convoluted tubules, the part nearest the glomeruli functioning last. Only when the largest doses are given are changes observed in the rest of the uriniferous tubules, and least in the collecting tubes.

Radecki found large doses to cause headache, formication, later on stupefaction, dyspnea, central respiratory paralysis, and death after spasms like those caused by carbonic acid poisoning. Dragendorff recovered cantharidin from a cat's body eight days after death. Muscular tissue from chickens fed on cantharidin killed a cat with the characteristic symptoms. Brunton states that cantharides affects the trachea and larger bronchi, causing congestion and irritation. It appears, therefore, that cantharidin is eliminated by all the mucous membranes, as vesication in the alimentary tract has been found even when the drug is administered hypodermically (Cushny).

Internally, in doses of 1 min. of the tincture, cantharides checks hematuria; in large doses it increases the disease. In acute nephritis, when the acute symptoms pass and a little albumin and blood are still to be found in the urine, the drug is very useful in 1 to 3 min. every three hours (Brunton).

In lupus, cantharidin was injected hypodermically by Liebreich, curing incipient and lighter cases completely. In other cases, where nutritive disturbances were marked, this agent acted beneficially. Its use must be methodical. It is contraindicated in renal disturbances, but if the kidneys are sound the drug may be given for years without disturbing them or causing any other observable ill-effect. The dose accurately fixed in any given case may be administered for years without alteration, though the least increase is ill borne, producing dysuria and diarrhea.

In cystitis, when there is inability to retain the urine and in ordinary incontinence of urine, it is useful, though atropine is generally better. Chordee is often relieved by a drop of the tincture three times a day (Brunton).

One part of the tincture to eight of some vehicle is a useful lotion for promoting the growth of the hair. Large doses are useful in impotence of elderly men (20 min. thrice daily, after meals; though this is a dangerous dose), but accessory treatment is desirable. Small doses cure the slight incontinence of urine in women. (Murrell.)

In doses not exceeding 2 to 3 min. the tincture has been commended in pyelitis, cystitis, gleet, and leucorrhea. It is contraindicated in acute inflammation; it has succeeded in atonic amenorrhea, and has

suppressed passive atonic seminal emissions; there is some evidence to show that the internal administration may check the progress of cancer (Shoemaker). Full doses are useful in impotence from old age, sexual excess or masturbation (Ringer). In simple and tubercular laryngitis, potassium cantharidate causes serous exudation, which is speedily reabsorbed. Hoarseness diminishes and swallowing is easier (Liebreich). Hennig applied cocaine cantharidate locally in tuberculosis, ozena, and mucous syphilis; 3 to 6 parts in 2,000 of chloroform water. Cantharis has been given internally as a systemic stimulant after debilitating fevers (Shoemaker).

In late stages of nephritis, with relaxed, torpid kidneys, or where albuminuria comes after slight exertion, tincture of cantharides 1 min. thrice a day, is of great service; also in chronic alcoholic nephritis, irritability of the bladder in women and children with depression, very chronic gleet and prostaticorrhea; internally in psoriasis, eczema, lichen and prurigo (Hare).

Its administration in cholera and epilepsy has fallen into complete disuse. Diabetes insipidus has been arrested by the internal use of cantharides; it is also useful for menorrhagia in weak women (Butler). It is of some benefit in dropsies, especially following scarlatina; in the later stages of diabetes, and in acne with uterine irritation (Ellingwood).

A careful study of the literature of cantharides shows that the active principle is largely excreted by the kidneys, to a less extent by the gastro-intestinal mucosa, and slightly if at all by the respiratory mucosa. The therapeutic effects are to be exclusively attributed to its local action. In states of relaxation and debility of the genito-urinary organs we may expect from cantharidin the same stimulant effect as is exerted on a cutaneous ulcer by a weak solution of silver nitrate. This applies also to the uterus, and the endometrium probably excretes and is stimulated by cantharidin. To a less extent the lower bowel is similarly affected by this agent, and in relaxation of the rectal tissues, prolapse and passive hemorrhoids, chronic catarrh and ulcer of the rectum, cantharidin would be a useful stimulant if the dose required did not prove too irritant to the urinary mucosa. The author very strongly doubts if doses large enough to affect favorably the respiratory mucosa can be given without harm to the kidneys, since very little of the drug is excreted by the lungs.

In regard to its effect as an aphrodisiac, the evidence is conflicting. Most writers

deny that there is any excitation of the sexual appetite, the priapism being only caused by toxic doses, and as a symptom of serious poisoning. The author has given the drug many times in moderate doses without eliciting the slightest pleasant sexual sensation; and in the only cases where erections were produced the suffering was too great to admit of any thought of pleasure. When impotence is attended with relaxation of the genito-urinary tissues, moderate doses of cantharides may be useful in imparting tonicity, and the drug may be of some value as an adjuvant to strychnine, but nothing more; and of the two, strychnine is preferable, since there will be also then present atony of the whole body, including tissues not influenced by cantharidin. And it would not be politic in such cases to restore the strength of this function while the more vital processes are left in a state of debility.

Cantharidin must be looked upon as a highly specialized weapon, delicate and keen-edged, capable of doing much good in a limited group of affections, but dangerous in unskilled hands. It is strictly a drug for dosimetric administration, and should never be given in rare large doses, but in minimum quantities rapidly repeated, until the beginning of burning in stomach or urethra shows the physiologic limit to be reached. And as many of the beneficial effects of fly-blisters are due to the cantharidin absorbed, the internal administration may well replace the blister in many instances. [?]

The author would especially recall attention to the claim recorded by Shoemaker, of the arrest of the growth of cancer by cantharidin. This is too important to be permitted to go without investigation. As in lupus, when the cancer is within reach it would be best, perhaps, to inject the solution hypodermically into the neoplastic growth. For this the combination known as cocaine cantharidate is suggested. This is said to be a mechanical mixture like citrated caffeine, not a chemical union; but the resultant mass is freely soluble in water, and cantharidin is not.

As to the value of potassium cantharidate in tuberculosis, Nothnagel condemns it; but condemnation is habitual with this writer, who rarely finds good in any remedy. Petheruti's three cases were abandoned by him as failures, but on examining them some time later he was surprised to find them cured. A true pessimist would not have made the final examination, but suffered the cases to go on record as failures.

The dose of cantharidin is given as  $\frac{1}{400}$  to  $\frac{1}{150}$  grn., well diluted. For lupus, sodi-

um cantharidate is injected into patches,  $\frac{1}{600}$  grn. for adults, every other day, suspended if diarrhea or dysuria occurs.

Dieterich's cantharidin oil is composed of 1 part cantharidin, 960 parts of olive oil, and 40 of acetone. Schroff fixed the lethal dose of cantharides for man at 30 grn., but of course the toxicity of various specimens may vary considerably.

## LOCAL APPLICATIONS IN GYNECOLOGICAL DISEASES'

By William P. Pool, M.D.

THE author states that topical applications are for the most part palliative and do not strike at the root of the lesion. Still there are many conditions in which they are of undoubted benefit, as in vulvitis, vaginitis, and cervical endometritis, and there are also some drugs that exert an analgesic and antiphlogistic effect on simple inflammations of the tubes and ovaries.

The method of making local applications varies somewhat according to the nature of the lesion. When the vagina is the objective point the patient is best treated in Sims' position, in which a Cleveland self-retaining speculum may be used in the absence of a nurse or assistant. With the aid of a depressor every part of the vagina may thus be exposed. This position is perhaps also better for making applications to the vaginal vault, but for treatment of the uterus the unaided operator may find the dorsal position and the bivalve speculum or posterior retractor more convenient. It is essential that the medicinal agent shall be applied directly to, or as near as possible to, the diseased area, and to this end the vaginal walls should be well retracted, and the mucosa thoroughly cleansed of all secretions. If these are particularly viscid or difficult to remove, it is well to mop the vagina with hydrogen dioxide. The application is then made by means of a swab or tampon. Tampons as medicine carriers are best made of ordinary cotton. Absorbent cotton not only soaks up and retains the medication, but also soon becomes saturated with the vaginal secretions and rolls into a hard ball, which is easily displaced.

Churchill's tincture of iodine is probably the most common drug used in office treatment, and its antiseptic and irritant properties render it useful in a variety of complaints. In ovaritis or ovarian neuralgia a few applications in the vaginal vault, especially if accompanied by proper tamponade, will give relief of pain and promote

<sup>1</sup> *Brooklyn Med. Jour.*, April, 1901.

healing. Applied directly to inflammations of the vagina and cervix, it is a useful antiseptic and stimulant. It cannot be said to have any specific action upon the endometrium, although it has been recommended for intra-uterine treatment in chronic endometritis. For this purpose an applicator syringe should be used, by means of which a weak solution of iodine is carried into the uterus as far as the fundus and allowed to remain there. Other agents, such as carbolic acid or silver nitrate, may be used in a similar manner, but it is doubtful if such treatment is beneficial, while on the contrary it is often dangerous when unaccompanied by the operation of dilation and curettage.

In cervical endometritis with erosion and ectropion, a valuable application is lactic acid. The cervix must first be cleansed of secretions with a cotton swab, or if there be a quantity of viscid mucus, by means of a mucus suction syringe. A thinly wrapped applicator is then saturated with the acid and carried into the cervix as far as the internal os, and the cervical endometrium and the eroded portion are thoroughly painted. A boroglyceride tampon may then be placed against the cervix and allowed to remain twenty-four hours. This treatment should be carried out three times a week, and in simple inflammation the results are usually most satisfactory. The first indication of improvement is a decrease in the mucous discharge and in the area of erosion, which is followed by a gradual disappearance of all signs of inflammation and its accompanying symptoms.

Silver nitrate in solutions of varying strength is useful in the treatment of superficial affections of the vulva and vagina, and also in erosion of the cervix. Its virtue consists in the fact that it is an escharotic that does not burn deeply or destroy tissue to any great extent. It is probably the best local remedy for gonorrheal vaginitis, and in this disease may be used at the strength of 1 dram to the ounce and swabbed freely upon the vaginal mucosa.

A solution of ichthyol in glycerin of a strength of 10 to 20 per cent. is one of the best local remedies we have in hyperemic conditions of the tubes and ovaries, or in simple and localized inflammations of the pelvic peritoneum. Ichthyol is mildly irritant and possesses decided analgesic properties which counteract the pain caused by the dehydrating and depleting action of glycerin. The latter, by causing a free serous discharge from the tissues, improves circulation and promotes resolution. Ichthyol is also said to cause the absorption of ad-

hesions. In relaxed and atonic conditions of the vagina, accompanied by profuse leucorrhea, or in subinvolution of the uterus with chronic endometritis, local astringents are indicated. The most useful are boroglyceride or glycerite of tannic acid. In the great majority of cases these applications should be supplemented, in the intervals of treatment, by the hot douche, to which may be added a mild antiseptic or astringent, such as boric acid or zinc sulphate. The patient must be in the recumbent position and the temperature of the water should be about 120° F. The injecting should be done slowly.

### FORMIN (HEXAMETHYLENE-TETRAMINE)<sup>1</sup>

By Dr. M. G. Bardet, Paris

At a meeting of the Therapeutic Society of Paris, held on February 27, 1901, Dr. Bardet read a paper on the therapeutic properties of formin. He called special attention to the fact that he was the first one to bring the drug to the notice of the medical profession, and this at a meeting of the same society, some seven years ago (April 11, 1894). He then pointed out that formin was an excellent solvent of uric acid and the urates, and it was this fact that induced him to try it on two gouty patients.

He thinks it extremely unethical and improper that Dr. Nicolaier, a year later, should take the same medicament and introduce it to the medical profession under a different name, urotropin, without giving him (Bardet) any credit.

Concerning the therapeutics of the product, the author states that the following conclusions may be considered well established:

1. Formin taken internally is an energetic eliminator of uric acid. Experimentally its aqueous solution is an excellent solvent of this substance (uric acid), but it is a rather curious paradox that an artificial solution of formin in urine does not possess this property, while the urine of patients to whom formin is given internally does dissolve uric acid and with great facility. It seems that the formin undergoes a certain decomposition in the body, which decomposition is an important factor in the case.

2. Formin, in all probability, yields free formaldehyde in its passage through the organism, and on account of this is the best urinary antiseptic we possess, if we wish to exert an antiseptic action from within.

<sup>1</sup> *Bull. gén. de Thérap.*, March 15, 1901.

It is necessary to state that when introduced directly into the bladder, formin exerts no antiseptic action; as with its solvent power, it must go through a certain decomposition in the human organism, before it acquires antiseptic properties.

In the discussion that followed the reading of the paper, Dr. Patein said that the uric-acid solvent properties of formin are well established, and could be predicted *a priori* from an examination of the chemical constitution of the product. Many compounds of similar constitution possess the same properties. He said he remembered well, when Dr. Bardet read the paper on formin and its derivatives, seven years ago. Professor Albert Robin stated that formin should be used in practice considerably more than it is at present, because its effects were remarkable not only in the lithemic diathesis, but in diseases of the urinary organs as well. In infectious diseases of these organs, formin exerted a most powerful influence; in many cases of bacteriuria, extremely obstinate and resistant to all kinds of treatment, he has been able to clear up the urine by the simple administration of 15 grains of formin per day. In his opinion, formin cannot be too highly recommended.

#### THE THERAPEUTICS OF THYROID GLAND

Thyroid gland has been employed in numerous diseases, and although it has often proved disappointing, its therapeutic value remains undisputed. It seems to be specific in myxedema, it acts beneficially in obesity, and its efficiency in a host of skin diseases has been demonstrated beyond a question.

Dr. P. Blaikie Smith<sup>1</sup> contributes several instances of the favorable action of the remedy. In one case, that of a woman aged forty-four, with a widespread carcinoma involving both mammae, the skin of the back and chest, the neck and right cheek, thyroid extract was administered with the hope of retarding the progress of the disease. Tablets of 5 grn. were taken twice daily, increased gradually to four tablets daily, and this treatment continued for six months. At the end of that time a remarkable change had taken place: many cancer nodules had disappeared or become much smaller, the patient's weight had increased, and her general condition improved considerably. The increase in weight is an interesting result when we remember the fat-reducing properties of thyroid extract. The improvement, however,

was not permanent, and soon the patient began to decline. Under persistent thyroid treatment she rallied once more, only to relapse again. Still the author is continuing the same medication, hoping to retard the progress of the disease.

In two other cases of inoperable mammary carcinoma, thyroid gland had no effect whatever on the regular course of the disease.

Excellent results followed the exhibition of thyroid gland in a child of three years, affected with a skin disease of a doubtful nature, resembling erythema. The remedy, given in doses of  $\frac{1}{2}$  grn. two to three times daily, brought about complete recovery, after all other local and general treatment had failed.

Striking effects were also obtained from thyroid gland, in doses of 5 grn., thrice daily, in a case of obesity. The loss in weight became apparent after one month of the treatment, and the reduction could be maintained by occasional courses of thyroid extract. Other cases of obesity, however, which the author subjected to similar medication, proved more refractory.

It would seem, therefore, that the action of thyroid gland is somewhat inconstant and uncertain, at least in the light of our present limited knowledge of its properties.

#### THE TREATMENT OF THORACIC PAINS IN CONSUMPTIVES

Among external measures, counter-irritation is the most important, says Champagnat.<sup>1</sup> Sinapisms, blisters, and the tincture of iodine are very valuable. The cautery, on the other hand, is too painful and cannot be frequently resorted to. Dry cups have the one disadvantage of not being applicable to all parts of the chest. Wet cups are more efficient.

The local refrigerants, methyl chloride and ethyl chloride, have been quite extensively employed in recent years. Fomentations, applied cold and left to be warmed on the body, are very grateful. Of the analgesics, guaiacol and methyl salicylate deserve particular mention. Guaiacol is used for the chest diluted with alcohol, and not more than 24 minims should be used for one application, while methyl salicylate may be applied pure or in ointment form, 25 to 40 drops to be painted on with a brush and covered with impervious tissues.

Antipyrine, exalgine, and other internal remedies, have but a limited range of usefulness. Very severe cases justify the administration of atropine.

<sup>1</sup> *Boston Med. and Surg. Jour.*, No. 2094.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 2.

# Progress in Materia Medica and Drug Therapy

## ZITTMANN'S DECOCTION

Many physicians are of the opinion that the compound decoction of sarsaparilla of the U. S. Pharmacopœia is a very poor substitute for the original decoctum Zittmanni—in fact that it is practically worthless compared with the latter. Dr. Granville McGowan<sup>1</sup> strongly recommends the original formula, which is as follows:

Bruised Sarsaparilla Root..... 4 oz.  
Water..... 17½ gal.

### (Package No. 1)

Fennel Seed..... } of each, 80 grn.  
Anise Seed..... }  
Licorice Root (Cut).. } of each, ½ oz.  
Senna Leaves..... }

Digest the sarsaparilla root in the water for twenty-four hours, then add package No. 1, and bring to a boil, while suspended in it in a linen bag is:

### (Package No. 2)

Powd. Alum..... } of each, 120 grn.  
Powd. White Sugar.. }  
Calomel..... 80 grn.  
Cinnabar..... 20 grn.

Boil gently until the quantity is reduced to a gallon, or a little less, then strain through a fine cloth, and put up in bottles that will hold about a pint.

Label this Zittmann's Decoction No. 1. To the dregs of this decoction add the contents of package No. 3.

### (Package No. 3)

Cardamom Seeds..... } of each, 60 grn.  
Cinnamon Bark..... }  
Licorice Root..... }

Pour in 17½ gallons of boiling water, and cook to a gallon. Strain, and bottle as before.

Label: Decoction No. 2.

In giving it the author directs that both the stronger (No. 1) and the weaker (No. 2) be given each day—the first for its purgative and diaphoretic effect, the second for its diuretic properties. He pays no attention whatever to the troublesome directions about the use of large quantities of hot water with the decoction. The dose of the stronger decoction is not very nice at any time, but the dislike to it, and the nausea it provokes, when given in large quantities, may be overcome if the individual is gradually accustomed to it.

The author directs that the patient shall have a light breakfast at 7 A. M., and at 9 A. M. shall receive 4 oz. of the stronger decoction, as hot as he can drink it; this dose is increased 1 or 2 oz. each day until he is taking a pint, or as near a pint as he can take without vomiting. The dose will usually purge him, but not violently, from

two to four times during the day. He stays in bed during the forenoon and sweats. He receives a light lunch at 12.30, and at 3.30, while in bed, takes from half a pint to a pint of the weaker decoction, cold.

Later he gets an alcohol rub, and at 6 P. M. a good dinner, without any green vegetables or fruits. No mercury [Has the author overlooked the fact that Zittmann's decoction contains a certain amount of mercury?—Ed.] or any other drug whatever that is intended to influence directly the course of the syphilis, is used while the decoction is given. Improvement need not be looked for immediately, but early in the second week of the treatment the listless eye will become brighter, the clouded mind become clearer, the demand for food increase, ulcers begin to repair, and other skin lesions commence to disappear. In the fourth or fifth week the patient will be on the high road to recovery. The improvement of his condition does not establish a tolerance for the Zittmann decoction; the better he grows the less he likes his dose. Presently, when the nails and ear lobes are pink, and the eye clear once more, we can return to mercurials for the completion of the cure.

## A SEVERE CASE OF ECLAMPSIA

Dr. Wm. B. Kenworthy<sup>1</sup> reports a case of eclampsia, with a favorable issue, possessing certain points of interest. The patient, a young unmarried woman of seventeen, was kicked by a horse during the eighth month of pregnancy. Forty-eight hours afterwards she began to have convulsions, at first several hours intervening, but gradually increasing in frequency and severity.

When called to see the case that same evening the author found the following conditions: Convulsions occurring at intervals of from three to five minutes; during quiescent state, twitching of all the muscles of face and upper extremities, deep cyanosis, pupils widely dilated, and patient in a comatose condition, from which she could not be aroused. A hot wet pack was at once applied over entire body, inhalations of chloroform were given at beginning of each convulsion, and 15 min. of fluid extract of veratrum viride hypodermatically, repeated at intervals of one hour in 5-min. doses until pulse came down to 65. Altogether a little over a dram was injected. Chloral, 1 dr., was also given, by enema.

<sup>1</sup> Jour. Gen.-Urin. and Cutan. Dis., March, 1901.

<sup>1</sup> Med. Council, April, 1901.

Rupture of membranes, with version and extraction, was performed as soon as interval between convulsions permitted.

Altogether there were twenty-three convulsions, seventeen before delivery, and six after. As would be supposed, the child was dead. After convulsions had ceased, consciousness was gradually regained, and as soon as patient could swallow, concentrated saline solution was given every hour until catharsis was produced. Aside from retention of urine, which lasted for three days, and the depressing effects of the veratrum viride and cathartics, recovery was rapid and uneventful.

In eleven months from that date the author delivered this same patient of a healthy male child, but this time it was legitimate and the labor normal. She has since had two more children, without any return of former complications.

[Several observers have reported that eclampsia is especially apt to attack those who are illegitimately pregnant. Is it not possible that the anguish, the shame, the knowledge of the lack of sympathy from those around, etc., contribute to a certain extent toward the condition? And is it not an argument in favor of the theory of the nervous origin of eclampsia?—EDITOR.]

#### LARGE DOSES OF TINCTURE OF IRON IN MALARIA

Dr. R. Prichard<sup>1</sup> strongly recommends the tincture of ferric chloride in malaria. He orders 15 to 20 min. with  $\frac{1}{2}$  or 1 grn. of quinine, sweetened with syrup, every hour during waking hours. In a case of apparently hopeless quotidian, with great anemia, the effect of this mixture was marvelous. In six very bad cases of quotidian and in several milder attacks, there has not been a single subsequent rigor, recovery has been rapid, and the liver and spleen have been reduced by inches within a fortnight. There was no digestive disturbance, headache or cinchonism. Quinine, the doctor says, even in large doses, does not produce this result.

In a later issue of the same journal<sup>2</sup> the doctor publishes a letter which he received from a physician in Jamaica, very strongly corroborating the claim made as to the value of tincture of ferric chloride in malaria. He used it in two of his sons who were suffering from a low form of malarial fever, resulting in anemia, emaciation, and great debility. Both cases were cured by the tincture of iron in spite of the fact that the writer lives in one of the most un-

healthy places in the island. In one case, that of a colored man, who was profoundly anemic, with puffy face, edema of the legs, weak heart, and a spleen that nearly filled the abdominal cavity, the tincture produced a marvelous change within a week. The writer concludes with the query: Can it be that the iron helps the red corpuscles to resist the attack of the parasite, or does it destroy it?

#### CHLORALOSE

Chloralose is a combination of chloral and glucose (chemically, anhydro-gluc-chloral), and its formula is stated to be  $C_8H_{11}Cl_3O_6$ . It is in the form of fine, colorless needles, soluble in about 170 parts of water and readily soluble in alcohol. Dr. James Tyson<sup>1</sup> reports nine cases of insomnia, some of them exceedingly severe, in which sulfonal, trional, and other hypnotics proved ineffective, in which chloralose produced excellent results.

He reaches the following conclusions: (1) Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphine. (2) It is more prompt in its action than chloral, and efficient in much smaller doses than that drug. (3) Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. (4) The drug needs to be further studied. (5) The maximum dose is 5 grn. in a capsule, which may have to be repeated in not less than an hour. It should be tried also in smaller doses, because it is reasonable to assume that the unfavorable effects may be thus averted, while the hypnotic action may not be interfered with.

#### TROPACOCAINE AS A SUBSTITUTE FOR COCAINE IN SPINAL ANESTHESIA

Very recently Dr. Karl Schwarz,<sup>2</sup> hospital surgeon in Agram, published his experience with tropacocaine in spinal anesthesia. After carefully conducted experiments, he found that  $\frac{5}{8}$  grn. (0.05 Gm.) injected into the subarachnoid space produced as perfect an analgesia as the ordinary cocaine, and none of the usually attendant symptoms, such as pallor, perspiration, nausea, vomiting, headache, dizziness or rise of temperature. Ten minutes after the injection analgesia was generally complete and absolute, and remained so until the end of the operation, though the latter lasted in one instance as long as two hours.

<sup>1</sup> Brit. Med. Jour., No. 2072.

<sup>2</sup> Brit. Med. Jour., No. 2095.

<sup>1</sup> Jour. Amer. Med. Assoc., XXXVI, No. 14.

<sup>2</sup> Centralbl. f. Chirurgie, 1901, No. 9.

Encouraged by these reports, Dr. Willy Meyer,<sup>1</sup> of New York, determined to make a trial with this alkaloid. A patient of his with tuberculosis of the kidneys had suffered with urinary symptoms for three years, and it became necessary to perform nephrectomy. He had hectic fever and continuous pain in the left side, so that he was unable to walk straight; the amount of urea passed daily was much below normal, thus proving that both kidneys were affected. Under general anesthesia the author certainly would have refused to operate on a patient like this. Five-sixths of a grain of tropacocaine hydrochlorate was injected, and in twelve minutes the analgesia was perfect. Neither the incision nor the resection of the rib was felt by the patient; only when the kidney was brought out of the wound did the patient complain; evidently the analgesia did not reach the upper pole of the kidney. Operation lasted about forty-five minutes. Three days later another operation was performed on the same patient—this time a nephrotomy on the right side. While the analgesia was somewhat less perfect, due probably to the nervousness of the patient, not a single disagreeable symptom made its appearance; pulse did not vary in strength or rapidity during the entire operation.

Two more operations were performed by the author under tropacocaine anesthesia; one a nephrotomy, and the other consisted in the removal of a multiple papilloma of the bladder. The conclusion reached by him agrees with those of Schwarz. The solution recommended by the author is made as follows:

Tropacocaine Hydrochlorate....	2½ grn.
Sodium Chloride.....	1 grn.
Distilled Water.....	2½ dr.

Ten minims of this solution contain ¼ grn.; the proper amount for injection is, therefore, 50 minims. [In the original paper the amount of tropacocaine in the formula given is ¼ grn. or 0.015 Gm.; this is, of course, a typographical error.—Ed.]

#### \* FORMALDEHYDE IN UTERINE HEMORRHAGE

Dr. Gerstenberg<sup>2</sup> employed the drug in ten cases of uterine hemorrhage. A pledget of cotton on a carrier was dipped into a concentrated formaldehyde solution (40 per cent.) and the sound then carried into the uterine cavity. In some cases this was repeated once or twice. The vagina was cleaned of blood and a tampon placed before the external os to prevent the remedy

from irritating the vagina. The introduction of the probe is easy, even in the nulliparous. The patient is kept in the reclining position for five minutes and told to stay in bed at home for two days. The results in the ten cases justify the recommendation of formaldehyde in uterine bleeding from unknown causes, and especially during the menopause.

#### QUININE AS AN OXYTOCIC

Dr. M. H. Fussell<sup>1</sup> strongly recommends the use of quinine in labor, in cases of simple uterine inertia. The drug excites intermittent and frequent uterine contractions, exactly similar to normal pains and entirely different from the tonic contractions following the administration of ergot. The author has found quinine especially valuable in cases of multiparæ, after the beginning of labor, where the pains are slow and weak and the os well dilated. The exhibition of 16 grn. of quinine will in such cases produce after fifteen to thirty minutes stronger and more frequent pains, which will often rapidly terminate labor and obviate the use of forceps. In primiparæ the drug proved less valuable, probably because here the slowness of labor is due to failure of the head to engage rather than to lack of nervous energy. Prof. Hirst's objection that quinine may cause severe post-partum hemorrhage has not been borne out by the author's experience. Neither has he observed the occurrence of cinchonism in his cases.

#### ICHTHOFORM AND ICHTHYOL BATHS IN TYPHOID FEVER

Dr. R. Polacco,<sup>2</sup> of Milan, was the first to introduce this method. After a diagnosis has been established, ichthoform in 8-grn. doses is administered in capsules (maximum dose, 12 capsules daily), and this treatment supplemented in grave cases by a hot bath containing 2 oz. of ichthyol. The temperature of the bath is at first 95° F. and is lowered to 80° F., in the course of ten to fifteen minutes. The baths produce reduction of temperature, better pulse, deeper respirations, and lowered blood pressure. Sometimes two baths suffice to control the course of the temperature. In all cases the duration of the disease is markedly shortened. Baths were resorted to only in the gravest cases.

#### SODIUM CACODYLATE IN SEVERE ANEMIA

Dr. Graff,<sup>3</sup> of Berlin, treated a case of extremely grave anemia with injections of

<sup>1</sup> *Med. News*, April 13, 1901.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 2.

<sup>1</sup> *Therap. Gazette*, xxv, No. 1.

<sup>2</sup> *Deut. med. Woch.*, xxvii, No. 5.

<sup>3</sup> *Therap. d. Gegenw.*, 1901, No. 1.



sodium cacodylate in the following combination:

Sodium Cacodylate.....	5	Gm.
Cocaine Hydrochlorate.....	0.1	Gm.
Morphine Hydrochlorate.....	0.025	Gm.
Sodium Chloride.....	0.2	Gm.
Carbolic Acid (5%).....	2	drops
Distilled Water.....to make	100	Gm.

One syringe (15 min.) daily.

After ten injections the improvement was considerable, and after twenty-five the patient was able to go up and down stairs and take short walks.

#### NEW TREATMENT FOR TUBERCULOSIS

Dr. O. A. Fliesburg<sup>1</sup> highly recommends a new method of treatment for tuberculosis of the lungs, glands, joints, and tendons. The treatment, which in the past two years and a half has proved remarkably efficacious in his hands, consists in hypodermic injections of a mixture of his own composition. He injects it deeply into the muscles of the abdomen, back, and loins, for tuberculosis of the lungs and intestines, and uses local injections into tubercular foci in tubercular diseases of joints and tendons, and sometimes into the swollen glands directly. The author calls his solution oleum iodo-bromophosphoro compositum sterilizatum, and it contains, as the name implies, iodine, bromine, and phosphorus, besides menthol, thymol and guaiacol, dissolved in sterilized oil.

The liquid has the following composition:

Iodine.....	1.5	Gm.	
Bromine.....	0.50	Gm.	
Phosphorus.....	0.25	Gm.	
Thymol.....	} of each,	2.5	Gm.
Menthol.....			
Guaiacol.....	1.25	Gm.	
Cod-liver Oil (Sterilized).....	50	Gm.	

For hypodermic use only. For tuberculosis of lungs, throat, glands, and intestines, one to three syringefuls (15-45 min.), once a day, in the forenoon. For tuberculosis of joints and tendons, inject deeply into foci, and apply bandage; repeat in four to eight days, as necessary.

[We believe that the author intended to prescribe 0.025 Gm. of phosphorus rather than 0.25 Gm. With the amount given above, one syringe (15 min.) would contain  $\frac{1}{12}$  grn., and three syringefuls  $\frac{1}{4}$  grn. of phosphorus—both toxic doses.—ED.]

Detailed histories of eight instructive and illustrative cases are given by the author, and his results have been so favorable that he hopes to get the profession to try the combination and report on its merits and uses. The entire number of cases treated by him so far is forty-seven; and the cases have been in all stages of all varieties of tuberculosis. The preparation has acted well even in the most advanced cases of pulmonary phthisis; and although no cure can be expected, it has always ameliorated the

cough, the night-sweats, and the fever, increased the appetite, and often has caused a gain in weight, even in the far-advanced cases. The injection, if made deeply into the muscles, is not painful and causes no erythema or induration to speak of. If any do occur they disappear in forty-eight to seventy-two hours without suppuration. The injections should never be made in the same place twice in succession.

#### VOMITING OF PREGNANCY

Dr. F. W. Johnson's<sup>1</sup> method of treating obstinate and uncontrollable vomiting of pregnancy consists in etherizing the patient, dilating the cervix slowly and carefully to the width of about an inch, then painting the cervical canal with Churchill's tincture of iodine thoroughly. Two cases that had resisted absolutely all other measures were permanently cured by this method.

#### SODIUM CACODYLATE IN CHOREA

Dr. Lannois<sup>2</sup> has treated three cases of chorea with sodium cacodylate instead of arsenic. He administered the former drug hypodermically, first in doses of  $\frac{1}{3}$  grn., then of  $\frac{2}{3}$  grn. All three patients recovered from the disease in from one to three weeks.

#### SILPHIUM LACINATUM

The tincture of this drug is recommended by Dr. Robinson<sup>3</sup> as a good remedy for the dyspnea of phthisical patients. He prescribes it as follows: Tincture of silphium lacinatedum, 1 oz.; alcohol, 4 oz.; water, 2 oz. Dose: half a teaspoonful several times a day.

#### TREATMENT OF FECAL IMPACTION

Dr. J. W. Hyatt<sup>4</sup> outlines the following treatment, which, while not strictly original, is rational and worth following.

First, he states, empty the stomach, using, if necessary, the stomach tube. Then give the patient a medium dose of morphine hypodermically, to produce the feeling of well-being that follows its administration. Then give atropine hypodermically,  $\frac{1}{100}$  grn., and repeat every hour till the full physiological effect is obtained. After the patient becomes quiet from the morphine and atropine, put him on his left side and introduce a colon tube carefully, and if any retained feces are detected wash them out with soap and water, letting the remains of

<sup>1</sup> *Boston Med. and Surg. Jour.*, CXLIV, No. 12.

<sup>2</sup> *Rev. de Thérap. Méd.-Chir.*, LXVIII, No. 5.

<sup>3</sup> *Centr. f. ges. Therap.*, March, 1901.

<sup>4</sup> *Med. Council*, VI, No. 4.

<sup>1</sup> *Northwestern Lancet*, March 15, 1901.

soapy water drain out through the colon tube. Then pour into the bowel through the colon tube from 1 to 2 quarts of fresh oil of sweet almonds, pushing the tube up gradually as the bowel is distended with the almond oil until the colon is filled comfortably full, but not enough to produce tenesmus; remove the colon tube, make counterpressure on rectum till all desire to stool is over. Then hold your patient fully under the influence of atropine for twenty-four hours. By under the influence of atropine the author means to the point of almost muttering delirium, excessively dry throat, with difficulty of swallowing. Allow him what water he will drink. At the end of forty-eight hours the patient will be convalescent.

Follow the atropine with hypodermics of strychnine to counteract the depression and effects of morphine if necessary.

Under this treatment, the author says, all cases will recover. The treatment with purgatives is not only useless, but positively injurious, as it tends to increase the inflammation and peristalsis.

#### URETHRITIS IN WOMEN

Dr. John O. Polak<sup>1</sup> states that no local treatment is needed during the acute stage. Urinary antiseptics, as salol, santal oil, ichthyol, and the alkaline diuretics contribute towards the patient's comfort; but some cases are so severe as to necessitate rest in bed and sedatives by the rectum. Iodoform or ichthyol bougies seem to have a beneficial effect. In the chronic form we must have recourse to direct applications of silver nitrate. A solution of 3- to 5-per-cent. strength should be applied twice a week. The only other drug besides silver nitrate which deserves indorsement is ichthyol, which may be applied directly to the mucous membrane in a 20-per-cent. solution on an applicator wrapped with cotton. The application is facilitated by the use of a fenestrated endoscope.

#### SULPHUR IN FURUNCULOSIS

By treating a case of furunculosis for twelve years with alternate administration of sulphur and arsenic, Roussloff<sup>2</sup> found that sometimes the favorable results were due to the one, at others to the other of these remedies.

In the anemic, neurasthenic, and feeble the preparations of arsenic seem to deserve the preference, while robust individuals with a well-developed subcutaneous fat-tis-

sue do better on sulphur. The mode of its action in furunculosis is uncertain. Possibly its laxative action contributes towards its effect on the furuncles. But the chief active element is probably the sulphuretted hydrogen that is formed in the intestines from the sulphur ingested, and which, on reaching the skin, exercises a germicidal effect on the micro-organisms.

#### INTERNAL TREATMENT OF SKIN DISEASES

Dr. W. R. Dalton<sup>1</sup> is convinced that hyperacidity, induced by faulty digestion and intestinal fermentation, is the sole cause of a great many skin diseases. While he uses local treatment in every case, he uses it simply as a palliative to relieve distressing symptoms and does not rely upon it as formerly. His chief reliance is on internal treatment, and the combination that gave him the most excellent results is as follows:

Naphtalin.....	} of each, 1 grn.
Ipecac.....	
Charcoal.....	
Arsenous Acid.....	} 1 1/2 grn.
Calomel.....	
Strychnine.....	} of each, 1/100 grn.
Pilocarpine.....	

The naphtalin and charcoal are antiseptics and inhibit the action of micro-organisms through the ileum and large intestine; the calomel, whether a cholagogue or not, destroys the bacterial forms in the duodenum and jejunum; the pilocarpine and ipecac exert their action upon the sweat glands and lymphatics, while the strychnine acts as a tonic to the vasomotors and the whole cutaneous nervous system. Constipation must also be combated, so the author generally follows the tablets by magnesium sulphate, lithium carbonate, and sodium phosphate in an effervescent form, in the morning.

#### TREATMENT OF INFLUENZA AND THE GRIPPE

Although the infectious and epidemic character of influenza has been for centuries well established, the bacteriology of the disease still remains largely unexplored. A satisfactory basis for our therapeutic efforts is therefore missing, and we are thrown back on clinical observation and empirical attempts. Hence the slow progress of our therapeutic methods in the management of influenza. The treatment has practically not changed in the last fifty or one hundred years, but still remains as complicated and varied as before.

Influenza has a marked tendency to attack the mucous membranes, in this resembling the affinity of rheumatism for the

<sup>1</sup> *Brooklyn Med. Jour.*, April, 1901, p. 213.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 2.

<sup>1</sup> *Jour. Amer. Med. Assoc.*, xxxvi, No. 13.

serous coatings of the body. This analogy gives Prof. L. Bourget<sup>1</sup> a clue to the treatment of influenza. The same external measures that were introduced in the management of rheumatism are indicated in la grippe; namely, the application of salicylic compounds to the skin. For this purpose the author devised an aromatic liniment of the following composition:

Salicylic Acid.....	1	dr.
Methyl Salicylate.....	2½	dr.
Oil Eucalyptus.....	75	min.
Oil Sage.....	45	min.
Oil Nutmeg.....	45	min.
Camphorated Oil.....	1	oz.
Spirit Juniper.....	4	oz.

For external use.

As soon as the patient is put to bed his chest and back are rubbed with this liniment, care being taken to soak the skin thoroughly. The patient is then well covered up to the chin. The warmth favors the volatilization of the ethereal substances, which in turn encourage perspiration and absorption, so much so that twenty to thirty minutes later salicylic acid may be detected in the urine. Another advantage of this method is the disinfection of the upper air-passages. It therefore belongs to the routine treatment of respiratory affections at the author's clinic in Lausanne.

#### DIONIN IN OPHTHALMOLOGY

Dionin acts chiefly by increasing the flow of lymph. In diseases of the cornea the employment of the drug is very beneficial. Corneal ulcers heal remarkably well under its influence. Besides, dionin possesses analgesic properties. Dr. Ludwig Vernies<sup>2</sup> considers it indicated in all corneal diseases and those of the iris and the ciliary body, where it is best applied in combination with mydriatics. The instillation of a 5- to 10-per-cent. dionin solution is always followed by the best results.

#### TREATMENT OF GASTRIC VERTIGO

Dr. M. A. Thelberg<sup>3</sup> thinks that by far the greatest number of cases of vertigo have their origin in disorders of the stomach. While he does not deny that disease of the semicircular canals, of the nerve of Cyon, or the apparatus of equilibrium generally, will cause vertigo, still he contends that these varieties are much less frequent than *vertigo a stomacho laeso*. His definition of this variety of vertigo is as follows: Vertigo without any obtainable evidence of disease of the apparatus of equilibrium, audition,

vision, or the brain, especially when the attack is traceable or subsequent to some dietetic indiscretion or gastro-intestinal disorder, and when curable by appropriate regimen and treatment directed toward digestive disturbances. The author's treatment, which has proved curative in the most alarming as well as recurring cases, is simple. He administers a glass or two of hot water half an hour before meals, with some sodium bicarbonate before breakfast, and 3 to 4 grn. of diastase with each meal. This he usually gives in combination with  $\frac{1}{20}$  to  $\frac{1}{10}$  grn. strychnine, and in some instances adds pepsin to it. The patient must also be instructed as to the importance of a proper diet and thorough mastication; and, by informing him of the nature of the trouble, he will be freed from useless anxiety.

#### CARBONIC-ACID GAS IN THE TREATMENT OF PULMONARY TUBERCULOSIS

Dr. Hugo Weber<sup>1</sup> advances a new method of treatment, based on the well-established [?] antagonism between tuberculosis and carbonic-acid gas. Numerous facts and considerations seem to prove conclusively [to the author's mind] that the tuberculous process does not take place in the presence of carbonic-acid gas, and that wherever the tubercle bacillus thrives the same gas is lacking. Thus it has often been observed that persons affected with heart-disease or with emphysema enjoy a certain immunity in respect to tuberculosis, most probably on account of the excess of carbonic acid in their lungs. On the other hand, children with congenital pulmonary stenosis die almost without exception of tuberculosis, their lungs not receiving a sufficient supply of carbonic acid. The formation of this gas in diabetes is interfered with by the constant loss of sugar (normally sugar is often split up into alcohol and carbonic acid), and hence the great disposition of diabetics to pulmonary consumption.

Departing from these and numerous similar considerations, the author concluded that the introduction of carbonic acid into the system ought to influence favorably the course of tuberculous processes. He at first administered 3 teaspoonfuls of sodium bicarbonate daily, with very good results, in chronic cases of pulmonary consumption. However, the quantity of sodium bicarbonate necessary to produce a sufficient amount of carbonic acid is too large for practical purposes, and the author soon found in *levulose* a satisfactory substitute. This substance, belonging to the sugars, is split up

<sup>1</sup> *Therap. Monatsh.*, March, 1901.

<sup>2</sup> *Klin.-therap. Woch.*, Feb. 10, 1901.

<sup>3</sup> *Med. News*, XXXVIII, No. 22.

<sup>1</sup> *Therap. Monatsh.*, March, 1901.

in the system into alcohol and carbonic-acid gas, producing sufficient quantities of the latter in cases of incipient phthisis. But where the process is farther advanced, levulose becomes insufficient and a still greater supply of carbonic-acid gas becomes imperative, and this is met by hypodermic injections of pure liquid vaselin (put up by one firm under the name *antiphthisicum*), 2½ drams of this substance being injected once or twice daily.

By means of this combined method (levulose internally and antiphthisicum subcutaneously) the author claims to have achieved a series of remarkable successes, and recommends his treatment as specific. He thinks that carbonic acid will prove of the same value in consumption as salicylic acid in acute rheumatism.

[In spite of the author's very positive statement, we fear that this specific treatment will share the fate of all former specifics and positive cures for tuberculosis. It is a rare day in which some absolute and positive cure for tuberculosis is not offered to the medical profession. By the way, if carbonic-acid gas is so beneficial, why not administer it by inhalation? That it is quickly and largely absorbed by the blood is too well known a fact to need dwelling upon. And then what becomes of all the fresh air and pure air theories and facts? Why is it that those tuberculous patients who lead an outdoor life, enjoying the greatest amount of oxygen and the least amount of carbonic-acid gas, thrive best?—EDITOR.]

#### TREATMENT OF ECZEMA

There are three indications in the management of eczema: (1) To protect the skin by dusting, ointments, pastes, and the like; (2) to reduce the infiltration and hypertrophy by the use of tar, sulphur, chrysarobin, etc.; (3) to cauterize the acute inflammatory spots (vesicles, abrasions, etc.). To fulfil this last indication we need a remedy which shall do no harm while accomplishing its direct purpose, and such an agent we possess in lenigallol, according to Dr. E. Kromayer.<sup>1</sup> Lenigallol, the triacetate of pyrogallic acid, is a white, crystalline powder, insoluble in water. Brought in contact with the inflamed skin it splits up, liberating pyrogallic acid, to which the effect is due. The author has used lenigallol for about two and a half years. The advantages of this remedy over pyrogallic acid and other substances employed in the treatment of eczema are as follows: It is insoluble and remains unchanged in contact with *normal*

skin; in contact with the inflamed skin, pyrogallic acid is slowly liberated; wherever the epidermis is lost (vesicles, pustules, crusts, abrasions) the change of lenigallol into pyrogallic acid is more rapid, thus regulating and confining the cauterization to such spots as stand in particular need of it. Besides, the drug is non-poisonous. These theoretical considerations have been completely borne out by the author's practical experience. He employs lenigallol in three combinations:

1. Lenigallol..... 20 parts  
Zinc Ointment..... 80 parts
2. Lenigallol..... 10 parts  
Oil Cade..... 5 parts
3. Zinc Ointment..... 85 parts  
Lenigallol..... 10 parts  
Wilkinson's Ointment..... 90 parts

(Wilkinson's ointment has the following composition: Oil of cade, 10 parts; precipitated sulphur, 20 parts; green soap, 5 parts; zinc ointment, 65 parts.)

No. 1 is used at the beginning of treatment. The paste is thickly applied and the dressing changed twice daily. The favorable results appear very soon, and many cases can be cured by this paste alone. Where deeper infiltration has supervened, paste No. 2 is used as an adjuvant. Should this prove too mild, as in cases of advanced infiltration, the combination of lenigallol with Wilkinson's ointment (No. 3) is recommended by the author as the very best remedy we possess.

#### TREATMENT OF MALARIAL HEPATITIS

Dr. Lemanski<sup>1</sup> advises the following measures: First, avoid alcohol in every form, a matter of prime importance. The remedies resorted to are the alkalies, quinine, and arsenic. A good combination is:

- Sodium Cacodylate..... ¼ grn.  
Powd. Cinchona..... 8 grn.  
Sodium Bicarbonate..... 8 grn.

For one powder or cachet. Three such daily.

Frequent purgation is advisable, and the following combination is recommended:

- Calomel..... 12 grn.  
Cascara..... } of each, 9 grn.  
Powd. Rhubarb..... }  
Powd. Belladonna..... 1 grn.

For three capsules. One such every quarter hour in the morning.

Once a week careful hydrotherapy is always indicated, including the cold hepatic douche. As a very good adjuvant to these measures, the author recommends that the patient consume 1 to 3½ ounces of calf's liver daily, either fried or raw in the form of hash in cold bouillon.

<sup>1</sup> *Munch. med. Woch.*, XLVIII, No. 6.

<sup>1</sup> *Bull. gén. de Thérap.*, CXL, No. 17.

**"COLD IN THE HEAD"**

Acute coryza may be aborted by a hot foot-bath at bedtime, followed by hot drinks and generous covering, so as to cause free perspiration. The attack itself is treated by Dr. Geo. C. Stout<sup>1</sup> as follows: A saline cathartic is given, and  $\frac{1}{20}$  grn. of strychnine administered thrice daily to stimulate the nervous system. If the discharge from the nose is free, the following tablet may be used:

Morphine Sulphate.....	$\frac{1}{32}$ grn.
Strychnine Sulphate.....	$\frac{1}{100}$ grn.
Atropine Sulphate.....	$\frac{1}{100}$ grn.
Arsenous Acid.....	$\frac{1}{100}$ grn.
Aconitine (Cryst.).....	$\frac{1}{1000}$ grn.

One to three such tablets daily, according to symptoms.

The local treatment is started by a gentle cleansing of the nares with some alkaline antiseptic. A 1-per-cent. solution of cocaine is then carefully sprayed into the nose, and followed in five minutes by a 2-per-cent. solution of antipyrine. This in turn is followed by the insufflation of calomel, and finally a solution of menthol (5 grn. to the ounce of liquid vaselin) is sprayed into the nose. These measures are carried out once daily by the physician. For the accompanying pharyngitis or laryngitis, this spray or inhalation is recommended:

Oil Eucalyptus.....	2 m n.
Zinc Sulphate.....	10 grn.
Antipyrine.....	40 grn.
Distilled Water.....	to make 2 oz.

At the same time a capsule like the following may be given every two to three hours:

Powd. Opium.....	$\frac{1}{4}$ to $\frac{1}{2}$ grn.
Camphor.....	1 grn.
Ammonium Carbonate.....	1 to 3 grn.

**THE MANAGEMENT OF ARTERIOSCLEROSIS**

Increased vascular tension being the cause of the condition, its treatment requires medication to overcome the vascular spasm and a dietetic régime calculated to prevent the production of vaso-constricting toxins. Dr. Combemale<sup>2</sup> details the indications as follows: The patient must avoid strong emotions, fatigue, or violent exercise; banish all highly seasoned meats and other foods from his table; abstain from tea, coffee, and the stronger alcoholic beverages. All fluids should be sparingly partaken of. Fresh meat, fresh vegetables, milk in abundance, and the diuretic mineral waters are recommended. The appearance of palpitation and precordial tension calls for the vaso-dilators, as nitroglycerin, tetranitrol or sodium nitrite. Of the nitroglycerin—

1-per-cent. solution—two to four drops may be given four times a day; the tetranitrol may be given in doses of  $\frac{1}{12}$  grn. five or six times a day. If headache supervenes, the treatment must be temporarily discontinued. Indirectly arterial tension may be reduced by administering diuretics, as theobromine, the diuretic action of which is enforced by drinking plenty of milk. Abdominal massage also contributes towards lowering vascular tension. Finally, the saline purgatives and calomel will assist in eliminating the toxins from the system. The remedy *par excellence* in arteriosclerosis is potassium iodide. Milk seems to facilitate the tolerance of this drug, and is at the same time the best vehicle for its administration. In the last stages of arteriosclerosis, digitalis and digitalin, or sparteine, are the only resources we have left to produce even a palliative effect.

**FORMALDEHYDE**

Dr. A. A. Young<sup>1</sup> argues for further trial of this agent in therapeutics. Its germicidal properties render it very serviceable. The author has employed it in treating a fistula following disease of a testicle, and the results were highly satisfactory. Formaldehyde proved to be inferior to hydrogen dioxide and various other germicides. In operative procedures for ruptured perineum the cleansing properties of the drug gave very good results. Other cases in which the author successfully tried formaldehyde were anal fistula and bromidrosis. In the latter a 10-per-cent. solution of the remedy effected a speedy and permanent cure. Internally formaldehyde has been used by him in gastric ulcer and in a case of dysenteric diarrhea in a child. The value of the drug as a prophylactic agent against the spread of infectious diseases is highly spoken of.

**NEW REMEDY FOR HEMORRHOIDS**

Dr. E. V. Hall<sup>2</sup> states that he found in *echinacea angustifolia* (common names: purple cone-flower, black Sampson) a very efficient remedy in hemorrhoids. His first case was that of a woman, who had such severe hemorrhoids that an operation was considered the only prospect of cure. Medicinal treatment gave only temporary relief. The doctor ordered injecting into the rectum after each movement, a dram each of the fluid extracts of *echinacea* and of witch-hazel. After the patient had used three injections, the hemorrhoids ceased to trouble her, and sometime afterward she

<sup>1</sup> *Therap. Gazette*, xxv, No. 1.

<sup>2</sup> *Rev. de Thérap. Méd.-Chir.*, LVIII, No. 5.

<sup>1</sup> *Therap. Gaz.*, xxv, No. 2.

<sup>2</sup> *Cincinnati Lancet-Clinic*, XLVI, No. 12.

said she was entirely well. Since then the author has had equally satisfactory results with six other cases. As some of the patients complained that the medicine was too strong, it was modified as follows:

Fl. Ext. Echinacea Angustifolia	1 oz.
Fl. Ext. Hamamelis Virginiana	2 oz.
Water.....	1 oz.

Of this he orders 2 drams to be injected after each stool. The slight burning sensation soon passes away and gives place to the pleasant cooling effect of the echinacea.

#### IODIPIN

This is an organic combination of iodine and sesame oil, made in two strengths, 10-per-cent. and 25-per-cent., the latter for subcutaneous use.<sup>1</sup> It is easily absorbed and quickly decomposed, so that the system is quickly saturated with iodine. Its hypodermatic use is a valuable addition to therapeutics. A syphilitic may be placed on the iodides internally and iodipin hypodermically, and thus be quickly brought under the iodine influence.

#### QUASSIA SUPPOSITORIES FOR THREAD-WORMS

Quassia is a well-tried and reliable remedy for the treatment of thread-worms, but finding the method of rectal injections tedious, Dr. S. O. Eades<sup>2</sup> suggested and had prepared for him suppositories containing each  $\frac{1}{4}$  grn. of quassia. The author has tried them in half a dozen or more cases, inserting a suppository every night or every other night, followed by a mild laxative in the morning, and the results have been most satisfactory. He considers this a great improvement on the method of injection generally employed.

#### THE TREATMENT OF SKIN DISEASES

Dr. R. Ledermann<sup>3</sup> lays down as a basis for treatment a special dietary, pointing out that a complete change to a vegetable diet is of great value in the nervous forms of pruritus, in furunculosis and in certain forms of psoriasis, while animal food is indicated in those skin affections which accompany glycosuria. With regard to local treatment, skin massage is valuable in acne indurata and sycosis, while puncture of small blood vessels (discission) gives good results in rosacea. For the destruction of nævi, warts, tumors, lupus nodules, and psoriasis of the tongue and cheek, Paquelin's thermo-cautery, the galvano-cautery, and electrolysis are still the best methods.

Actinography must be tried more extensively before a just opinion can be formed. Finsen's method of applying the ultra-violet rays of the spectrum is useful as a bactericidal agent for tuberculosis and other skin lesions. Surgical extirpation must also be applied in certain cases. Among the general internal remedies, arsenic can only be considered specific for lichen ruber, acuminatus, and planus, and perhaps in lichen verrucosus. It is, however, useful in many other conditions, such as mycosis, psoriasis, pruritus, urticaria, and chronic eczema. It is best given by the mouth in doses of  $\frac{1}{40}$  grn. of arsenous acid. Intramuscular injections of larger doses of the acid, or cacodylic acid, give disappointing results. Ichthyol and ichthyol albuminate give good results in acne and acne rosacea, while iodothylin and thyroid gland tablets are extremely valuable in psoriasis and some of the eczematata. Oöphorin is useful in rosacea and climateric eczema. There are innumerable forms of applying drugs locally to the affected part, among which may be enumerated water compresses, steam baths, lotions, liniments, ointments, plasters and pastes. Unguentum caseini (Unna's), resorcin, epidermin, in combination with other active ingredients, hold a high place. A paste made with 10 per cent. of naphthol or 20 to 40 per cent. of resorcin gives good results for desquamation in acne, comedones, etc., while for raw surfaces, oxblood serum, zinc oxide, and white wax are useful. The internal treatment of acute eczema is very unsatisfactory. Locally, the best results are usually obtained by the free application of dusting powders during the erythematous and early papular stages. These are zinc, bismuth, aluminum, borotannate, and dermatol. For itching, a lotion of thymol (1 to 400), carbolic acid (1 in 50), and menthol spirit (1 in 50 to 1 in 100), may be used under the powder—care, however, being taken not to apply it to the face or scrotum. In the papulo-vesicular stages, ordinary earth clay (kaolin) with from 1 to 2 per cent. of acetic acid, 1 per cent. of resorcin, or 1 per cent. of thymol, is one of the best applications. A variety of pastes are also useful in this stage, in particular Lassar's paste (salicylic acid, zinc oxide, and starch) and ichthyol paste. When the crusts form, salicylic acid in a vehicle of olive oil is useful, and an especially good combination is: Zinc oxide, 1 part; bismuth subnitrate, 1 part; cold cream, 4 parts; simple ointment, 4 parts. The squamous forms, where the peeling process is almost absent, are to be

<sup>1</sup> *Wis. Med. Rec.*, IV, No. 1.

<sup>2</sup> *Brit. Med. Jour.*, 1901, p. 281.

<sup>3</sup> *Brit. Med. Jour. Epit.*, No. 2097.

treated by the tar preparations. Beech tar, birch tar, juniper tar, and coal tar are the four kinds of tar in use. Liquor carbonis detergens is the most useful form, made from coal tar. In chronic eczema, the internal treatment resolves itself into that of the diathesis, and the exhibition of arsenic or ergotin. Locally, salicylic acid plaster, 5 to 10 per cent., spread on gutta-percha, is very useful. Pyrogallic acid, lenigallol, and pyraloxin are best used in ointments. Eczema rimosum is often improved by painting with a 10-per-cent. solution of caustic potash. The tar preparations are also to be used in chronic eczema. In psoriasis the author warns against the use of arsenic in the eruptive stages.

Large doses of potassium iodide are sometimes useful, while a mercurial course in obstinate cases is sometimes advisable. Boracic acid and bismuth salts in ointment form are the best local applications in acute cases. In less acute and in chronic forms a thorough bathing in soap or soda and water, and subsequent use of a 5 to 10-per-cent. salicylic acid ointment, yields good results. In treating the hairy parts, scalp, face, etc.—white precipitate ointment, together with bismuth subnitrate and resorcin, tar preparations, and pyrogallic acid are the most useful. The latter should not be used where there is fair hair. Chrysarobin is one of the most useful drugs in psoriasis of the body, but care must be taken that it does not set up an acute dermatitis. In its place, eurobin, 1 part; zinc oxide and starch, 10 parts each; and vaselin, 20 parts, formed into a paste, may be used if chrysarobin is not tolerated by the patient.

#### **SALOL AND ANTIPYRINE AS AN APPLICATION IN UTERINE AFFECTIONS**

Dr. Alessandro<sup>1</sup> calls attention to a method of treating endometritis, uterine hemorrhage, etc., which has given excellent results in his hands. Though given to the profession by Labadie-Lagrave in 1895, it seems to be but little known. The treatment is performed as follows: Equal parts of antipyrine and salol are introduced into a dish and gentle heat is applied until the mixture melts, assuming a brownish tint and syrupy consistence. Several aluminium cotton-carriers are prepared beforehand, each one carrying a piece of absorbent cotton. The first cotton-carrier is introduced dry, so as to wipe away the mucus from the inside of the uterus; the other cotton swabs are dipped into the liquid while it is still hot and immediately

introduced into the uterine cavity. The application may be repeated twice or three times.

Ostermann published the results he obtained with the above method in thirty cases of metrorrhagia and menorrhagia. Most of them were complicated with endometritis; in some there co-existed a pelvi-peritonitis, retroflexion, etc.; a few were cases of puerperal hemorrhage. It is proper to mention that in about 25 per cent. of the subjects curetting preceded the antipyrine-salol applications. The results were very favorable.

In a great many cases a simple application sufficient to stop a uterine hemorrhage permanently; in others two to three applications were necessary, at intervals of three to eight days.

#### **ABSORPTION OF ICHTHYOL**

A contemporary<sup>1</sup> recently stated editorially: In experimenting with ichthyol, Beck and Fengocsy came to the important conclusion that all substances that are soluble equally in water and in fat, as ichthyol is, are transmissible through the skin, not only to the deeper layers, but beyond them to the distant organs.

#### **JURUBEBA IN HEPATIC COLIC**

Dr. Nikloulina<sup>2</sup> has employed the fluid extract and the tincture of jurubeba in doses of 20 drops, three to four times daily, in twenty-nine cases of biliary colic. The results were encouraging; the attacks becoming less painful and frequent. The remedy was administered over long periods, for several months or even a whole year, with intermissions of about a month every four to six weeks. No untoward effects of any kind were noticed.

#### **TREATMENT OF GONORRHEAL EPIDIDYMITIS**

Du Castel was the first to apply methyl chloride to the inflamed testicles as a substitute for ice. Roger<sup>3</sup> proposes to simplify the application by dipping an ordinary camel's hair brush into the liquid methyl chloride, and then passing it rapidly over the entire surface on the affected side of the scrotum, particularly considering the location of the epididymitis. The spermatic cord may also be thus sponged if inflamed. The sensation of burning disappears very quickly. Inflammatory symptoms subside rapidly after the application, which may be repeated.

<sup>1</sup> *Alkaloidal Clinic*, April, 1901, p. 280.

<sup>2</sup> *Med. Obsolescence*, 1900, No. 9.

<sup>3</sup> *Thèse de Paris*, 1900.

<sup>1</sup> *Il Morgagni*, XLII, No. 49.

**IRON CACODYLATE**

Gilbert and Lereboullet<sup>1</sup> recommend the hypodermic use of iron cacodylate as a substitute for other iron salts, since it has none of their disagreeable effects. It is especially indicated where the number of red corpuscles and the amount of hemoglobin are both deficient. In chlorosis and the chloranemias it is productive of very satisfactory results, and also in the various forms of lymphadenitis and leucemia. The remedy may be administered by mouth or hypodermically. The daily dose for internal use varies from 1 to 5 grn.; subcutaneously,  $\frac{1}{2}$  to  $1\frac{1}{2}$  grn. The author recommends the following formulas:

Iron Cacodylate.....	5 grn.
Distilled Water (Sterilized)....	$2\frac{1}{2}$ dr.
From 15 to 45 min. daily, subcutaneously.	
Iron Cacodylate.....	15 grn.
Cinnamon Water.....	6 dr.
From 20 to 40 drops three times a day.	

**DYSPEPTIC DIABETES**

Prof. A. Robin<sup>2</sup> designates by this term a form of diabetes originating in dyspeptic conditions. He outlines the following preparatory or preliminary treatment: (1) Adhere closely to the usual hygienic and dietetic regimen of diabetics, and avoids all acids. (2) One and one-half hours before breakfast and dinner, take the following powder in a little seltzer water:

Antipyrine.....	8 to 15 grn.
Sodium Bicarbonate.....	8 to 12 grn.

The antipyrine reduces directly the activity of the liver. (3) Drink only Vichy with meals. (4) After meals take one of the following powders in a little water:

Calcined Magnesia... }	of each, 1 dr.
Sodium Bicarbonate.. }	
Prepared Chalk.....	90 grn.

Divide into 12 powders.

(5) For gastric crises or heart-burn, one of the following powders, in water:

Calcined Magnesia (Heavy)...	4 dr.
Bismuth Subnitrate.....	110 grn.
Prepared Chalk.....	110 grn.
Codeine.....	1 grn.
Sodium Bicarbonate.....	$2\frac{1}{2}$ dr.

Divide into 6 powders. (Very voluminous powders, which must be well mixed with water.

This treatment is to be strictly adhered to for several days, and is to be considered as preliminary to the regular diabetic management. The urine is to be examined daily, and as soon as the sugar has disappeared the drugs are to be discontinued and the patient restricted to a milk regimen. If the sugar reappears, the treatment with antipyrine is to be resumed.

Lithium carbonate and arsenic are also useful remedies. The author gives them as follows: Lithium carbonate,  $2\frac{1}{2}$  grn., dissolved in tablespoonful of water and mixed with a tablespoonful of the following: Sodium arsenate,  $\frac{5}{8}$  grn.; distilled water, 10 oz. This dose is given morning and night. If the arsenic proves irritating to the stomach, the author injects into the rectum 75 min. of the following mixture: Fowler's solution, 2 dr.; distilled water, 3 oz.

**WASTED QUININE PILLS**

Dr. John Curnow,<sup>1</sup> on February 4th, treated a patient suffering from enteric fever, after twenty-two days of pyrexia of a very intermittent type and obstinate constipation, with 5 grn. of quinine in the form of two pills three times a day. On the 11th, after a simple enema, the pills were found in the stool. They were seven in number, hard, and apparently unacted upon by the gastric or intestinal juices. Enemata had been given on the 4th, 6th, 8th, and 10th, as well as on the 11th. It was subsequently ascertained that in making the pills water had been used instead of the glycerin ordered in the British Pharmacopœia. The pills were not coated.

**TIC DOULOUREUX**

Dr. A. Grandclément<sup>2</sup> has treated four cases of tic douloureux with subcutaneous injections of a mixture of antipyrine and cocaine. One of the patients had been suffering for five years. All four patients were cured.

**CREOSOTE IN PNEUMONIA**

Dr. I. L. Van Zandt<sup>3</sup> considers creosote (or creosote carbonate) the ideal remedy in pneumonia. He goes even so far as to say that he considers its use in the treatment of pneumonia "one of the greatest life-saving discoveries of the century just ended." He began the use of creosote in this disease about seven years ago, when he gave it to a pneumonia patient, not for the pneumonia, but for a fermentative condition in the alimentary canal. To his surprise he found the temperature on the next day somewhat subnormal and all the other symptoms correspondingly improved. On reducing the dose, the temperature increased; he again gave a larger dose, and on the next day he dismissed his patient cured. Since then he has been giving creosote or creosote carbonate to every case of pneumonia. During

<sup>1</sup> *Klin.-therap. Woch.*, March 10, 1901.

<sup>2</sup> *Rev. de Thérap. Méd.-Chir.*, LXVIII, No. 4.

<sup>3</sup> *Lancet*, March 23, 1901.

<sup>4</sup> *Rev. de Thérap. Méd.-Chir.*, LXVIII, No. 5.

<sup>5</sup> *Med. Record*, LIX, No. 13.



the past winter he treated sixteen cases with no fatality, dismissing four on the second, five on the third, one each on the fourth, fifth, sixth, seventh, eighth, and two on the tenth days. The author says he is now somewhat disappointed if his patient is not ready for dismissal by the third or fourth day.

He concludes his paper with strong testimony in favor of the creosote treatment of pneumonia from Drs. Andrew N. Smith, J. A. Gracey, Cassantè, Eberson, and others. The dose as given by the author is 1 drop, of creosote carbonate, repeated at frequent intervals. Larger doses are given by others with no harm, and possibly with better results.

#### GUACAMPHOL IN NIGHT-SWEATS

Guacamphol is a combination of camphoric acid and guaiacol; more precisely, the camphoric acid ester of guaiacol. The introducer of this new guaiacol derivative claims for it the properties of an antitubercular in general and an antihidrotic in particular. Dr. Sigfried Kaminer,<sup>1</sup> of the Royal Policlinic for Diseases of the Chest, Berlin, who has used this remedy in thirty-two tubercular patients, states that while the antitubercular properties of the guacamphol are very problematical, there is no question as to its excellent effect in the night-sweats of consumptives. And of the thirty-two cases, the night-sweats ceased in twenty-seven, and in many of those permanently; in two there was considerable improvement, and only in three cases no results were obtained.

The dose advised by the author is 8 grn., taken after supper. As a rule the dose had to be repeated for three nights in succession. The drug is insoluble in the gastric juice, and undergoes decomposition only on reaching the intestinal canal.

#### THERAPEUTIC USE OF AMYL SALICYLATE

This compound results from the action of chlorine on a saturated solution of salicylic acid in amylic alcohol. It is a colorless liquid of a salol-like odor, almost insoluble in water.

Dr. M. B. Lyonnet<sup>2</sup> experimented with this new derivative in the various rheumatic manifestations. The remedy was used locally, by sponging from  $\frac{1}{2}$  to  $\frac{3}{4}$  dr. of it over the affected region. Thereupon some impervious tissue was placed over the field of application. No irritation followed.

The drug was also given by mouth in

capsules of about 3 grn. each, about ten capsules daily. The effects obtained by the author in patients with rheumatic manifestations were very good and he recommends the remedy especially in acute and subacute cases. The compound has the sedative properties of amylic derivatives besides the antirheumatic qualities of the salicylates.

#### RAW MEAT AND ORTHOFORM IN LARYNGEAL TUBERCULOSIS

Dr. Garnaud<sup>1</sup> has treated a case of pulmonary tuberculosis with raw meat and intratracheal injections of this mixture:

Menthol.....	45	grn.
Cocaine (Alkaloid).....	8	grn.
Orthoform.....	40	grn.
Exp. Oil Almond.....	3	oz.

For external use.

From the very commencement of this combined treatment the patient's condition showed marked amelioration; the cough ceased, the apical lesions improved, and the man could resume his fatiguing occupation of ballet-master. In view of this and another similar case, the hope is justified of this proving an efficient method of treatment. The intratracheal injections demand some experience, but otherwise offer no difficulties.

#### TRICHLORACETIC ACID IN SURGICAL PRACTICE

The value of trichloroacetic acid in surgery rests, according to Dr. David T. Huston,<sup>2</sup> on its caustic, astringent, hemostatic, and stimulating properties. The need of a caustic free from the numerous disadvantages attending the use of nitric, carbolic or acetic acids, silver nitrate, or caustic potash, was long felt, and suggested the trial of trichloroacetic acid in the treatment of chancroids and other ulcerations. The results were highly encouraging. The method of application was as follows: The ulcer was first cleansed with hydrogen peroxide and then swabbed with a pointed swab dipped in a 5 per cent. aqueous solution of the acid. The ulcer turned immediately white on the surface. The pain was slight for the first few minutes, thus rendering thorough application possible. The ulcers were then dusted with some powder and healed rapidly. These good results encouraged the use of trichloroacetic acid in treating venereal warts and vegetations, 5- and 10-per-cent. solutions being swabbed on the warts. Two or three such applications, followed by a dusting powder, sufficed in most cases, and while the action of the remedy was thus less prompt than that of glacial acetic or nitric acids, this

<sup>1</sup> *Therap. d. Gegenw.*, April, 1901.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 2.

<sup>1</sup> *Rev. de Thérap. Med.-Chir.*, Feb. 15, 1901.

<sup>2</sup> *Therap. Gazette*, XXIV, No. 12.

was compensated by the absence of all inflammatory complications, which require after-treatment when these stronger acids are employed. The value of trichloroacetic acid as a stimulant was demonstrated on various ulcerations, especially on ulcers of different kinds.

The cases treated had resisted all previous applications. The ulcers were first cleaned with bichloride, 1 : 8,000 to 1 : 4,000, then sprayed with hydrogen dioxide, again cleaned with the bichloride, and dried and swabbed with a 5-per-cent. solution of the acid. A dusting powder followed, and strapping or a dry dressing completed the treatment. Decided improvement could be demonstrated in a short time.

The pain experienced by the patients began one-half to one hour after the application, and persisted for about the same time, never being severe enough to interfere with the occupation, as often happens when silver nitrate is used.

Trichloroacetic acid was further successfully used to stimulate mucous patches in the mouth and about the genitals, as well as to cauterize the granulations after opening abscesses.

The advantages of the remedy are as follows: It is a powerful stimulant, and cleans off sloughs and lessens secretions from granulating surfaces; applied to wounds it does not cause pain immediately, making a thorough application possible. Finally, little or no inflammatory reaction follows its employment.

#### THE TREATMENT OF MÉNIÈRE'S DISEASE

Whenever the symptoms of Ménière's disease are caused by any other condition, as accumulations of cerumen, inflammation of the ear, etc., the underlying trouble is to be treated. The management of Ménière's disease, properly so-called, is outlined by Dr. Pritchard<sup>1</sup> as follows:

1. In the apoplectic form, rest in bed, counter-irritation by means of blisters, and large doses of the bromides are indicated. In some cases pilocarpine may be tried to restore the hearing. However, in most cases of this form, the treatment is unavailing.

2. The epileptic form offers, in the author's opinion, much better chances of improvement under the administration of bromides in large doses, or still better, hydrobromic acid in doses of 48 to 60 minims. In a few cases, sodium salicylate is productive of good results. Large doses of quinine have not given good effects in the

author's hands, but quinine in small doses, combined with iron and strychnine, is an efficient tonic. Concomitant otitis calls for its own treatment. Occasionally a blister will improve the hearing and diminish the tinnitus aurium. The use of pilocarpine is seldom advisable.

Operative interference appears to have a promising future, judging by a recent case of Dr. Balance.

#### CODEINE IN NEURASTHENIA

Dr. Otto Dornblüth<sup>1</sup> is very enthusiastic in his praise of codeine, in the treatment of neurasthenia. He ascribes a sort of specific action to the drug, since its good effects cannot be due to its narcotic properties, considering the small dosage. Especially good results were obtained in the insomnia of overworked neurasthenics. Codeine (Knoll)  $\frac{1}{6}$  grn. thrice daily for four to five days, and later the same amount five to six times daily, produced most satisfactory effects. These doses can be gradually increased, according to the requirements of the individual case, to  $\frac{1}{3}$  grn. five times daily, and continued for four to seven weeks in succession, after that to be as gradually diminished. The author commences to decrease the amounts as soon as the patient feels relieved and the improvement persists, under the dose reached, for about one week.

#### GUACAMPHOL IN NIGHT-SWEATS OF CONSUMPTIVES

Dr. A. Lasker<sup>2</sup> employed this remedy in fifty-six cases of excessive sweating in phthisis. Guacamphol, the camphoric-acid ester of guaiacol, is a tasteless and odorless white powder, insoluble in water, alcohol, and the ordinary solvents. Taken internally, it passes the stomach unchanged, and splits up in the alkaline intestinal secretions into guaiacol and camphoric acid, the latter accounting for its antihidrotic action. The author employed the drug in doses of 3 grn. to 15 grn., and hour or two before bedtime. Often the sweats were effectually checked by one dose; in other cases the remedy had to be administered on several successive nights. Untoward results were not observed. Comparative studies showed that guacamphol is almost always equal to atropine in promptness of action. The advantage over its active constituent, camphoric acid, lies in the smaller dosage of guacamphol and in the absence of exciting properties.

<sup>1</sup> *Rev. de Thérap.*, LXVII, No. 19.

<sup>1</sup> *Centralbl. f. d. ges. Therap.*, XVIII, No. 10.

<sup>2</sup> *Centralbl. f. d. ges. Therap.*, XVIII, No. 10.

**FORMALDEHYDE IN LOCAL TUBERCULOSIS**

Dr. Sousloff<sup>1</sup> has successfully employed the method originally proposed by Hahn, consisting of injections of glycerin solutions of formaldehyde varying in strength from 1 to 5 per cent., into cold abscesses and tuberculous joints. The cavity is first evacuated and its contents replaced by about 2½ drams of a 1-per-cent. solution of formaldehyde in glycerin, freshly prepared. After one to two minutes this solution is also evacuated and replaced by a fresh quantity. A dry dressing is then applied. The patient immediately complains of pain, a local swelling appears, and the temperature rises slightly. Three or four days later the symptoms subside, and the injection is repeated after five to seven days. The reaction is milder the second time. The injections are repeated in this manner until the cicatrization is complete.

**ARGENTUM COLLOIDALE IN SEPTIC INFECTION**

Dr. P. Viêt<sup>2</sup> has employed argentum colloidal in many cases since the year 1898, and concludes that it has the same importance in septic infections that antitoxin has in diphtheria. He employed the unguentum Credé, using one inunction of 45 grains once daily at first. But finding that there were no by-effects, that no argyria occurred, he increased the dose to 1½ to 2¼ drams daily in severe cases. He also gave the silver internally in many instances.

Argent. Colloid.....	30 grn.
Albumin.....	5 dr.
Distilled Water.....	6 oz.

A tablespoonful every two hours.

The author records a number of cases of phlegmon, lymphangitis, and lymphadenitis as examples of many instances of local septic infection by streptococci or staphylococci treated in this way; and they show the superiority of the soluble silver to other methods. In many cases the ordinary antiseptic remedies were first employed with very unsatisfactory results. The disease process progressed along the lymphatic channels and to the lymphatic glands; and only the colloidal silver could limit the evil effect of the pus cocci, stop the malady, and cure the patient. Large doses, such as 3 drams of unguentum Credé in twelve hours gave brilliant results in an astonishingly short space of time.

A very severe case of diphtheria and two of scarlet fever ran very favorable courses under the treatment. Diphtheria is often a mixed infection, and the author expresses his belief that antitoxin should be em-

ployed for the diphtheria bacilli, and colloidal silver for the streptococci. When both specifics have been administered the physician may rest content with having done his therapeutic duty. The streptococci play a similar rôle in scarlatina and the patients often die of general septic infection. For prophylactic reasons, therefore, the employment of the drug is indicated in every case of the disease.

The author also employed the treatment in three cases of puerperal fever with very good results. He therefore believes that it should be used in every case.

**LARGE DOSES OF CREOSOTE IN TYPHOID FEVER**

Dr. Richter<sup>1</sup>, of Santa Fé, Argentine Republic, recommends very large doses of creosote in the treatment of typhoid fever. In uncomplicated cases he starts with 30-drop doses (!), repeated three times a day and given in wine. If this amount is well-borne—which so far has always been the case—the author at once increases the dose to a teaspoonful three times a day. Under this heroic treatment the fever, etc., disappears in three to five days, provided, of course, the patient is not moribund when coming under treatment. Antipyretics the author uses but exceptionally, and only in the beginning of the treatment. The cold water method is, in the regions where he is practicing, out of the question. Intestinal hemorrhage is no contraindication to the use of the creosote, though, of course, it must be given its special treatment.

**ACUTE SYPHILITIC NEPHRITIS**

Dr. Charles J. Aldrich<sup>2</sup> reports two cases of this kind. The first presented the usual typical symptoms of syphilis, and in addition a severe, persistent headache, fever alternating with chilly sensations, edema of ankles and shins, and diminished amount of urine. An examination of the latter revealed the presence of albumen, roughly estimated at about 4 per cent. Microscopical examination showed epithelial casts. Notwithstanding vigorous therapeutic measures, the quantity of excreted urine went down, and the anasarca reached such enormous dimensions that the author says it became the greatest from which he has ever seen a patient recover. Under specific treatment this patient recovered completely, however, all traces of casts or albumen disappearing from the urine.

The second case showed somewhat similar features, the headache, edema, and fever

<sup>1</sup> *Rev. de Thérap.*, LXVII, No. 24.

<sup>2</sup> *Allg. med. Cent.-Zeit.*, Jan. 19-23, 1901.

<sup>1</sup> *Berlin. klin. Woch.*, XXXVIII, No. 5, p. 147.

<sup>2</sup> *Cleveland Med. Gaz.*, XVI, No. 4.

suggesting an examination of the urine, which contained a large percentage of albumen and numerous casts. This case also recovered under persistent mercurial treatment.

Concerning the diagnosis of syphilitic nephritis, we must bear in mind the possibility of the two diseases being coincident and independent of each other. Besides, the nephritis may be due to the mercury. In this latter case the withdrawal of the drug will be followed by an improvement. Should none follow, however, and the characteristic features of syphilitic nephritis, namely, great anasarca, with unusually large quantities of albumen in the urine, be present, then mercury is to be pushed. The diagnosis requires further the exclusion of a septic nephritis due to absorption of pus from the specific sores.

The treatment itself is that for acute nephritis, combined with a course of mercurial medication.

#### CALOMEL PLASTERS IN THE TREATMENT OF SYPHILIS

In 1890 Quinquand showed that syphilis can be effectively treated by the application of mercurial plasters. This method has been adopted by Gillet,<sup>1</sup> who speaks well of it. The plaster has the following composition:

Calomel.....	10 parts
Diachylon Plaster.....	30 parts
Castor Oil.....	3 parts

This is to be spread on cloth in such a manner that each square of four inches shall contain about 20 grn. of calomel. The size of the plaster to be applied each time varies with the age of the patient. The plaster is allowed to stay on for a week at a time, when it is removed and another piece applied to a different portion of the skin.

Of course the skin is to be well cleansed before each application. This method of treatment is especially applicable in infantile syphilis.

#### DIPHTHERIA ANTITOXIN IN SCARLET FEVER

Reports of favorable results obtained by the use of diphtheria antitoxin in the cure and prevention of scarlet fever are somewhat frequent of late, both in this country and abroad. Dr. C. U. Dalton<sup>2</sup> has used the antitoxin in twenty-five or thirty cases, some of them very severe, and he also immunized the other children in the families where the disease occurred. None of the immunized children had the disease, and

not a single death occurred among the patients. The author was also impressed by the fact that a number of cases that were running a severe course at once assumed a mild form after one or more hypodermic injections of antitoxin.

#### TREATMENT OF BLEPHARITIS

Dr. Sancassani<sup>1</sup> recommends in simple blepharitis the frequent application of compresses wet with a 3-per-cent. solution of boric acid, and when the acute stage has passed the application of one of the following ointments:

Yellow Mercuric Oxide.....	8 grn.
Vaselin.....	} of each, 75 grn.
Wool-fat.....	

or

Ichthyol.....	8 grn.
Zinc Oxide.....	15 grn.
Vaselin.....	} of each, 75 grn.
Wool-fat.....	

If the blepharitis is one of the manifestations of general debility, scrofula, etc., then the local treatment must be supplemented with salt baths, iron preparations, cod-liver oil, etc. In squamous blepharitis the author recommends one of the following applications:

Precipitated Sulphur.....	15 grn.
Salicylic Acid.....	1½ grn.
Resorcin.....	1½ grn.
Vaselin.....	} of each, 75 grn.
Wool-fat.....	

This is preferably applied at night. In the day-time the following may be applied:

Zinc Oxide.....	15 grn.
Vaselin.....	} of each, 75 grn.
Wool-fat.....	

or

Precipitated Sulphur.....	15 grn.
Spirit Camphor.....	30 min.
Rose Water.....	} of each, 2½ dr.
Distilled Water.....	

Shake well and apply externally to the margins only.

In ulcerative blepharitis the following ointment is indicated:

Calomel.....	2 dr.
Vaselin.....	} of each, 1 dr.
Wool-fat.....	

A small quantity to be carefully applied to the palpebral margin.

The affected margin may also be painted with a solution of corrosive sublimate or a 3-per-cent. solution of silver nitrate. In blepharitis of a parasitic origin the following application is very efficacious:

Oil Cade.....	} of each, 15 grn.
Salicylic Acid.....	
Precipitated Sulphur.....	45 grn.
Wool-fat.....	2½ grn.

To be applied to the eyelids at night.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 2.

<sup>2</sup> *St. Louis Med. Rev.*, XLIII, No. 14.

<sup>1</sup> *Il Morgagni*, XLII, No. 49.

# MERCK'S ARCHIVES

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MAY, 1901

NO OTHER man, living or dead, has done so much, qualitatively and quantitatively, for scientific medicine as has Rudolf Virchow. He is universally and unanimously acknowledged as the Dean of the Medical Profession of the World, the Grand Old Man of Medicine. It is therefore with especial pleasure that we call our readers' attention to the appeal (page xii., Miscellany) of the American committee on the Rudolf Virchow fund, which will co-operate with the Berlin committee in honoring the great master, whose name, as the circular-letter justly says, "is always certain to arouse admiration and enthusiasm."

\*\*

ANATOMY, physiology, pathology, and bacteriology are extremely interesting sciences, but they are not necessarily medical sciences. A man may be a physiologist or a bacteriologist without having any idea of practical medicine. Those sciences become true branches of the Science and Art of Medicine only in so far as they influence therapeutics. This is the only part of medicine for which the patient cares. "What can you do for me, in my case?" is the only question the answer to which has a profound interest for him. It is Therapeutics which affords the sole and only *raison d'être* for the medical profession. Unfortunately in the past many physicians have been rather apt to forget the fact, and even now too many physicians seem to forget that they are healers first and scientists after. But there is a healthy reaction in this respect, as there is in every other line of medical thought. Our col-

leges, our text-books, our systems, our annuals, all give more space and time to that neglected branch of medicine, therapeutics, and that the medical profession is becoming fully awake to the importance of the subject is seen from the fact that no other books have such a wide sale as those dealing with *treatment*. Almost all the medical journals, obliged to cater to this demand of the physician, have established a department of "practical therapeutics."

\*\*

Is the process of dentition *per se* capable of causing convulsions in children? Some old and experienced clinicians answer this question in the affirmative. Others—and they seem at present to constitute the majority—vigorously deny that any such thing is possible. Dentition, they claim, is a strictly physiological process, and how can a physiological process cause pathological phenomena? Leaving the question itself—whether dentition *per se* can or cannot cause convulsions—out of consideration for the present, we should say that basing the argument on the fact that dentition is a physiological process is extremely illogical, and it is hard to see how such reasoning can be offered as an argument. Menstruation is a strictly physiological process, and does it not cause a whole string of pathological phenomena? Let the hundreds of different remedies for uterine congestion, dysmenorrhea, amenorrhea, ovarialgia, etc., be an answer to the question. Parturition is a strictly physiological process—and what agony and anguish, what suffering and disease, and, even more, what loss of life follow in the track of this strictly physiological function? Nor is a caked or inflamed breast, or a mammary abscess an altogether unknown phenomenon in a nursing woman. And lactation is surely a strictly physiological process! It is therefore apparent that those who deny the possibility of dentition *per se* causing convulsions will have to bring forward other arguments to support their assertions; the mere fact of dentition being a physiological process will not do.

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It is time that the ancient notion of health and disease—or physiological and pathological processes—being distinct, separate, and absolutely antithetical entities, be discarded. No Chinese wall, not even a distinct line of demarcation, separates the condition of health from that of disease, and it often requires but a very slight disturbing factor to disarrange the bodily equilibrium and to transform a physiological process into a pathological one.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

J. P. A.—Questions of a medical nature will be answered only if coming from medical men. Questions regarding treatment coming from laymen (and druggists are also laymen in this connection) will receive no attention. We can be certain that the inquirer is a physician, only if his name is found in the current medical directories, or if he incloses a professional card or letter-head. The inquirer need not necessarily be a subscriber to the ARCHIVES.

R. R. E. writes: Can you give me the diagnosis of and a course of treatment for the following case: Young man, aged twenty years; only symptom inability to start the flow of urine in from three to four minutes after commencing to try; no pain and no history of venereal disease. A sound enters the bladder easily. Trouble came on about eight years ago; urinates about three times in twenty-four hours; has no desire to urinate unless he waits from twelve to twenty-four hours. Urine passes easily when once started.

The data given above are not sufficient to establish a diagnosis with any definiteness. Does the urine dribble away after the patient is through urinating? Is there any residual urine? What is the amount of urine passed each time? What is the condition of the urine? Is it perfectly normal, or is it pathological qualitatively or quantitatively? Has masturbation been excluded with positiveness? Has the prostate been examined? Has the possibility of a neoplasm been excluded? What is the patient's sexual condition? All the above questions must be answered before a *definite* diagnosis can be made. Still, tentatively, we would say that the condition appears to be simply one of spasm of the neck of the bladder (with some atony if the urine keeps on dribbling at the termination of the act of micturition). The treatment consists in administering antispasmodics, preferably by the rectum, and an excellent formula is the following:

Ext. Belladonna.....	} of each,	$\frac{1}{4}$ grn.
Ext. Hyoscyamus.....		
Morphine Sulphate.....		$\frac{1}{6}$ grn.
Cacao Butter.....		15 grn.

Passing a steel sound—the largest one the urethra will admit—three times a week,

leaving it in for about fifteen minutes at a time, is also very useful. If there is atony of the bladder this treatment in conjunction with tincture of cantharides, tincture of nux vomica, and tincture of iron—five drops of each, three times a day—will undoubtedly effect great improvement or a cure. Strychnine in  $\frac{1}{30}$ -grn. doses may also be administered in the form of rectal suppositories.

L. C. T. writes: In the November issue of MERCK'S ARCHIVES, p. 464, I find the following formula:

### Acute and Chronic Coughs :

Linseed Oil.....	15 oz.
Oil Wintergreen.....	} of each, 2 dr.
Oil Cinnamon.....	
Dil. Hydrocyanic Acid.....	$2\frac{1}{2}$ dr.
Glycerin.....	5 dr.
Simple Syrup.....	10 oz.
Water.....	24 oz.
Irish Moss.....	$\frac{1}{2}$ oz.

Make an emulsion; 2 to 4 teaspoonfuls three times a day.

I have tried to make an emulsion, but the oil rises to the surface and must be shaken before the oil and water, etc., can be mixed. If you can tell me how to suspend the oil, I will be grateful.

No pharmacist would have any difficulty in making a perfect emulsion from the above ingredients; no matter how simple a thing may be, one must know *how* to do it. If the ingredients are simply thrown together, no emulsion will result. The right way to proceed is as follows: Rinse the Irish moss with a little cold water, so as to remove the impurities; then put it in a suitable dish; add the 24 oz. of water and bring to a boil (preferably on a water bath), allowing it to boil for fifteen minutes, stirring frequently. Then strain through muslin, adding through the strainer enough water to make the strained liquid measure 24 oz. This thick mucilage is then put in a mortar, and the oil is gradually added with constant stirring until thoroughly emulsified. The syrup is added next, and then the other ingredients. Instead of a mortar, the whole process can be performed in a large bottle, which is to be shaken well after each addition of the oil. When working with large quantities, the process is performed much more easily and rapidly in one of the special emulsifiers. If a very thick emulsion is desired, 6 dr. of Irish moss may be taken instead of 4 dr.

R. R. B. writes: A patient of mine received a badly lacerated wound on the index finger. After thoroughly cleansing the wound, I applied orthoform powder and dressed it with dry absorbent gauze. The next morning the entire hand was inflamed, very itchy, and covered with little blisters; towards evening the blisters ruptured, secreting a thickish fluid, and the whole hand presented the

appearance of an acute eczema. Though the patient denies it, I have a suspicion that he made matters worse by scratching the hand; at any rate, it was fully four weeks before the hand healed, and even now it is not quite normal. The wound on the finger, on the contrary, healed nicely and at no time was there a drop of pus. What I wish to know is: has such an effect of orthoform ever been noticed and reported before? I used orthoform in this case only once, treating the finger, the rest of the time with bismuth subgallate and iodoform gauze only.

That orthoform, though an excellent wound antiseptic, is apt to cause a severe eczema and other symptoms of intoxication, has long been known. Friedländer collected from literature fifty cases of local and general orthoform-intoxication. He himself experienced severe symptoms of intoxication after using orthoform on a mild intertrigo. The symptoms were fever and an exanthema on the entire body, consisting of nodules and blisters, which rendered him incapable of attending to his work for three weeks. Ruhemann reports a similar case: the swelling and eczema lasted three weeks. (See *Therap. Monatsh.*, Dec., 1900.)

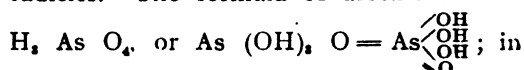
J. C. B.—Kindly inform me as to the nature, therapeutic uses, indications, and dose of Myrtol.

Myrtol is a volatile oil, obtained by the distillation of the leaves of the common myrtle (*Myrtus communis*). Its chief constituents are pinene and cineol, the latter practically identical with eucalyptol. Its therapeutic properties are those of the terebinthinate in general. It is an excellent expectorant, especially in chronic cases of bronchitis and bronchorrhea, but its administration must be continued for a long time. In cystitis and urethritis it acts more or less like copaiba and oil of santal. Applied locally, it is an excellent parasiticide and has been used with good effects in several forms of skin disease, such as favus, herpes, scabies, etc. It is also efficient against worms. The dose is 1 to 5 min., in capsules or in emulsin, or simply dropped on a piece of sugar, repeated several times a day. An original paper on myrtol, by Prof. Solomon Solis Cohen, appeared in the ARCHIVES of November, 1900.

A. T. B. writes: I should feel grateful for some information regarding Cacodylic Acid and the Cacodylates. What I wish especially is to get a clearer insight into their chemical constitution, as the latter is not given in any of the articles I come across, which treat only of the therapeutic indications. Why is it called Cacodylic Acid? I know of no element with a similar name. P. S.—It is a pleasure to feel that you can turn to the ARCHIVES whenever you want some light on a mooted question in materia medica, chemistry, or drug therapeutics. This alone is worth many times the nominal subscription price. Your ed-

itorials are excellent, and meet with the approbation of all high-minded, thinking physicians.

Cacodylic acid is dimethyl-arsenic acid; that is, arsenic acid in which two hydroxyl radicles have been replaced by two methyl radicles. The formula of arsenic acid is



the cacodylic acid, as said before, two hydroxyls are replaced by two methyls; the formula is, therefore:  $As(CH_3)_2O OH$ ,

written graphically:  $As \begin{array}{c} \diagup CH_3 \\ \diagdown CH_3 \\ | OH \end{array}$ . In the

metallic cacodylates the hydrogen in the remaining hydroxyl is replaced by the base; sodium cacodylate is, therefore,  $As(CH_3)_2O ONa$ ; potassium cacodylate,  $As(CH_3)_2O OK$ , etc. The word cacodylic acid is derived from three Greek words: *Kakos*, bad; *ozein*, to smell; *ule*, matter, stuff, meaning bad-smelling stuff, the odor of cacodyl being extremely disagreeable.

A. J. N. describes a case in which he gave Cannabine Tannate in 1-grn. doses, repeated every four hours. The patient became boisterous and delirious, and the doctor is anxious to know whether he did not exceed the safe dose in administering a grain of the alkaloid at a time.

The doctor is unnecessarily anxious. While the susceptibility and idiosyncrasy of some individuals to the action of cannabis indica is at times quite remarkable, still the dose of 1 grn. of cannabine tannate is a very small one. This preparation is administered in doses of 5, 10, 15 and even 20 grains without untoward effects. It is very possible that the boisterousness and delirium of the patient was due to his original disorder, for which cannabine was administered. Has the possibility of substitution been excluded absolutely?

H. J. N.—Please state the absolute maximum dose of Atropine Sulphate, beyond which no physician would be justified in going. What is considered its minimum dose?

As we have said before, posology is not an exact science; all we know about the doses is merely approximate and there is hardly a drug about which we can say: Thus far shalt thou go and no farther. Atropine sulphate is a very good case in point. The maximum dose has always been considered  $\frac{1}{40}$  or perhaps  $\frac{1}{30}$  grn. The German Pharmacopœia gives the maximum single dose even lower,  $\frac{1}{60}$  grn.; the maximum daily dose as  $\frac{1}{20}$  grn. Nevertheless, Dr. Batsch, a German physician, decided about a year ago to administer much larger doses, in cases of ileus, or intussusception, and intestinal obstruction. He gave, therefore,  $\frac{1}{12}$  grn. hypodermically! Not only were

no bad results observed, but the effect on the disease was excellent; the patient passed much flatus, the "knot" in the bowel became untied, and in many cases an operation was thus avoided. Several physicians have pursued the same method of treatment since the publication of his article, and with similar results. And it must be borne in mind that it is only with such large doses of atropine that such good results may be obtained. Had Dr. Batsch feared to exceed the dose given by authorities and to strike out for himself, a valuable procedure in intussusception would have been unknown. Similarly with minimum doses. What is a minimum dose to one physician may not be such to another. There are, for instance, physicians—and not homeopaths either—who claim to get good results from  $\frac{1}{50}$  grn. of powdered nux vomica. To most physicians such dose seems ridiculously small, the minimum being given as  $\frac{1}{2}$  or even 1 grn. We therefore repeat that while the doses given in the text-books are approximately correct, still the progressive physician will not abide by them slavishly. In cases in which he considers it necessary, he will unhesitatingly, though gradually, increase the doses above the ordinary maximum dose, in the meantime carefully watching the effects. And if he thinks he gets good results from a dose much smaller than the regulation minimum, dose, he need not be backward in exercising his judgment.

W. W.—The following is the formula of Graefe's Diaphoretic Powder: Camphor,  $\frac{1}{2}$  grn.; powdered opium,  $\frac{1}{2}$  grn.; potassium nitrate, 5 grn., and sugar,  $2\frac{1}{2}$  dr. To be taken at one dose in a cup of tea before going to bed. It is similar in its action to Tully's powder.

J. H. B. asks for the formula of some good, but not too violent caustic, to be applied to the eyelids in case of trachoma, conjunctivitis, etc.

A crystal of copper sulphate dipped in water and applied to eyelids, in substance, passing it over two or three times, is very efficacious and has been in great favor with the older physicians, though of late years it has fallen into undeserved neglect. Some time after the application, a black crust forms, which falls off after a few days, leaving the margin of the eyelid in a healthy condition; the eyelashes are also stimulated in their growth. Another excellent means of treating granular lids, is by the aid of the once famous ophthalmic pencil of Graefe, which is made as follows: Silver nitrate, 1 dr.; copper sulphate, 2 dr. Reduce to very fine powder and add about 8 drops of distilled water, triturating until a

plastic mass is obtained. Roll on a marble or glass slab and divide into pencils, about 2 inches long and  $\frac{1}{8}$  or  $\frac{1}{4}$  inch thick. For application, dip the point in water, and pass over the margins of the eyelids once or twice. Take care that none gets into the eye.

J. N. K.—Kindly give formula and uses of Churchill's Tincture of Iodine. Is it an improvement over the U. S. P. tincture, and is it also called Churchill's Iodine Caustic?

The tincture referred to is now usually prepared according to the following formula: Iodine, 165 Gm.; potassium iodide, 33 Gm.; water, 200 Cc.; alcohol, enough to make 1,000 Cc. The potassium iodide serves here a double purpose: it permits a much larger amount of iodine to be dissolved than otherwise would, and prevents the iodine from precipitating when the tincture is mixed with water. As seen, this tincture is nearly two and a half times as strong as the official, the latter containing only 70 Gm. of iodine to 1,000 Cc. of alcohol. It is used as a paint in various gynecological ailments, such as exudations in the posterior cul-de-sac, subinvolution, ovaritis, etc.

Churchill's iodine caustic is a different preparation. It consists of 25 Gm. of iodine and 50 Gm. of potassium iodide dissolved in 100 Cc. of water. In the ingredients contained it is the same as our Lugol's solution, except that it is five times stronger. (Lugol's solution: Iodine, 5 Gm.; potassium iodide, 10 Gm.; water, to make 100 Gm.)

J. P. C. asks what is understood by the term Chloral-camphor, and what is its dose.

When chloral hydrate and camphor are rubbed together they become liquefied, and camphor-chloral is generally prepared by triturating in a mortar equal parts of those two ingredients. The resulting liquid is rather thick and heavy and is to be regarded more as a mechanical mixture than a chemical compound. It is used chiefly externally, being an excellent counter-irritant in neuralgia, lumbago, sciatica, rheumatism, etc. It may also be given internally (dose, 2 to 4 drops, in whiskey or syrup), in colic, cramps, and migraine.

A. R. R. asks (1) for the composition of Asthma Paper; (2) for the composition of a proprietary preparation recommended for Asthma, and (3) an outline of a good treatment for this disease.

(1) By asthma paper, without further specification, is understood the official Charta Potassii Nitratis, which is made by dipping strips of filter paper in a saturated



solution of potassium nitrate. The paper is ignited and the smoke inhaled. (2) The preparation inquired about is a mixture of secret composition. While we do not think that it would do the patient harm, we would certainly discourage its use, not only on ethical grounds, but also because every intelligent physician should be able to prescribe a combination which should be at least fully as effective. If he himself is unable to do so, he will find a good formula in his text-books or medical journals. The following, for instance, is an excellent combination for asthma, excelled by none other, patented or non-patented:

Potassium Nitrate.....	1 oz.
Stramonium Leaves.....	1 ½ dr.
Hyoscyamus Leaves.....	1 dr.
Belladonna Leaves.....	½ dr.
Lobelia.....	2 dr.
Grindelia.....	2 dr.

Powder and mix thoroughly.

Of this mixture, one teaspoonful is to be burned in a small, closed room or under a tent. The smoke is to be inhaled for about fifteen minutes or until relieved. Internally, if necessary, the following mixture may be given and it sometimes acts magically:

Morphine Sulphate.....	1 grn.
Spt. Glonoin.....	16 min.
Comp. Spt. Ether.....	½ oz.

Twenty drops to one teaspoonful, according to severity of case. May be repeated in one hour, if necessary.

Of course, the patient is also to take constitutional treatment, so as to prevent if possible the recurrence of the attacks. The iodides are universally accepted as the best constitutional antiasthmatic remedy. Iodipin, which is a chemical combination of iodine and sesame oil, possesses all the advantages of the iodides without their drawbacks, and has been used recently by many clinicians (Dr. Otto Frese, Dr. J. W. Frieser, Dr. Kindler, Dr. Anton Zirkelbach, and others) with signal success in the most inveterate cases of asthma.

A. A.—Please give formula of Bengué's Anodyne Balsam.

Bengué's anodyne balsam consists of menthol, 2½ drams; methyl salicylate, 2½ drams; wool-fat, 3 drams.

R. B. G. asks for some information about Pelletierine, its best mode of administration, etc.

Pelletierine is the alkaloid obtained from pomegranate (botanical name, *Punica granatum*—hence the alkaloid is also known under the name punicine). It is a very efficient anthelmintic, and the salt best suited for the purpose is pelletierine tannate; its dose is from 8 to 24 grn., given mixed with a little water. In about two

hours after administration, the dose is to be followed by a cathartic.

M. L. G.—Figwort (botanical name, *Scrophularia nodosa*) is considered alterative, anodyne, and diuretic. It is not official; the dose of the fluid extract is from 30 to 60 minims. Made up as an ointment, it is considered by some a good application for piles.

A. C.—(1) Carbazotic Acid is simply a synonym for picric acid. (2) It is true that phosphine is a synonym for phosphorated hydrogen,  $\text{PH}_3$ , a very poisonous and inflammable gas; but this name is also applied to another chemical compound—diamido-phenyl-acridine binitrate—which is one of the aniline dyes, soluble in water, and has been claimed to possess valuable anodyne properties. There can be no question but that the latter substance was the article meant.

J. J.—Eurobin is chrysarobin triacetate, and is used as a substitute for chrysarobin, than which it is much milder in action.

R. H. C.—You will find all the information concerning Calcium Iodate in the ARCHIVES, February, 1901, p. 59.

R. F.—Lozone is the name of a brand of peroxide of hydrogen, claimed to be more stable than the ordinary commercial product.

Q. B.—The use of the black oxide of copper, or Cupric Oxide, in various skin diseases is not by any means new, the statement of your medical friend to the contrary. It has been so used for at least half a century. It is generally applied in the form of an ointment, 5 or 10 per cent., with either lard or vaselin as the base. It is claimed to be quite efficient in ringworm and in chancroids.

A. A.—Æsypus is a fanciful name given to the crude impure wool-fat. We do not think it should ever be used in place of the pure hydrous wool-fat.

J. S.—(1) Van Graefe's Symptom consists in the inability of the upper lid to follow the downward movement of the eyeball; most frequently seen in Graves' disease. (2) Romberg's Sign, most frequently seen in locomotor ataxia, consists in the swaying of the body and inability to stand firmly when the eyes are closed and the feet put together.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutica*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Anemia :

Iron Glycerinophosphate.....	40	grn.
Strychnine Sulphate.....	$\frac{1}{4}$	grn.
Simple Elixir.....	2	fl. oz.

Teaspoonful three times daily, after meals.

### (In Malarial Anemia.)

Iron and Quinine Citrate.....	1	dr.
Capsicum.....	2	grn.
Ext. Taraxacum.....to make	12	pills

One pill after each meal.

Arsenous Acid.....	$\frac{1}{2}$	grn.
Euquinine.....	30	grn.
Dried Iron Sulphate.....	40	grn.
Strychnine Sulphate.....	$\frac{1}{2}$	grn.

Make into 20 pills. One three times daily.

### (In Pernicious Anemia.)

Arsenous Acid.....	1	grn.
Ext. Nux Vomica.....	10	grn.
Hemogallol.....	150	grn.
Mucilage Acacia.....	to make 60 pills	
Sugar.....		

Two three times daily after meals.

### (In Syphilitic Anemia.)

Donovan's Solution.....	80	min.
Orange-flower Water...to make	2	oz.

Teaspoonful in water after meals.

### (In Nephritic Anemia.)

Iron and Ammonium Citrate...	1	dr.
Potassium Citrate.....	2	dr.
Cinnamon Water.....	1	fl. oz.
Simple Elixir.....	1	fl. oz.

Teaspoonful in water after meals.

### Gastric Acidity:

Sodium Bicarbonate.....	$2\frac{1}{2}$	dr.
Calcined Magnesia.....	2	dr.
Sodium Bromide.....	$2\frac{1}{2}$	dr.
Bismuth Sub carbonate.....	$1\frac{1}{4}$	dr.
Sugar of Milk.....	$2\frac{1}{2}$	dr.
Oil Fennel.....	4	drops

From a half to one teaspoonful, an hour or two after eating. An extra dose in case of pain.

### Basedow's Disease in Children:

Strontium Bromide.....	$1\frac{1}{2}$	dr.
Strontium Iodide.....	3	dr.
Simple Syrup.....	5	dr.
Peppermint Water.....	2	oz.

One teaspoonful three times a day.

### Resolvent for Tuberculous Glands:

Tinct. Iodine.....	5	min.
Magnesium Sulphate.....	1	dr.
Sodium Chloride.....	160	grn.
Distilled Water.....	10	dr.

To be applied on compresses.

### Scarlet Fever (with Severe Throat Involvement):

#### 1. (Externally to the throat) :

Ichthyol.....	1	dr.
Belladonna Ointment.....	3	dr.
Menthol.....	20	grn.
Wool-fat.....to make	1	oz.

Rub in well three times a day and cover with lint.

2. Corrosive Mercuric Chloride....	$\frac{1}{2}$	grn.
Alum.....	24	grn.
Tinct. Ferric Chloride.....	2	dr.
Glycerite Boroglycerin.....	4	dr.
Syrup.....	4	dr.
Water.....to make	3	oz.

Teaspoonful every two or three hours.

#### 3. (Externally on the entire body, to relieve itching, especially during the period of desquamation.)

Oil Wintergreen.....	2	dr.
Menthol.....	$\frac{1}{2}$	dr.
Olive Oil or Sesame Oil.....	8	oz.

#### 4. (To combat the fever, if excessive):

Tinct. Aconite Root.....	12	min.
Spt. Nitrous Ether.....	1	oz.
Potassium Citrate.....	2	dr.
Syrup Raspberry or Lemon....	1	oz.
Water.....to make	3	oz.

Half to one teaspoonful every two to four hours, according to age and severity of symptoms.

5. If nephritis is a prominent feature, and the secretion of urine is greatly diminished, apply hot water bags to the region of the kidneys, have patient consume large amounts of plain water (boiled and cooled) or carbonated water, and give the following mixture:

Sparteine Sulphate.....	6	grn.
Caffeine.....	6	grn.
Solut. Ammonium Acetate....	4	oz.
Syrup Lemon.....	2	oz.

A teaspoonful to a tablespoonful every hour or two.

—W. J. ROBINSON.

### Antiseptic Dusting Powder:

Salol.....	4	dr.
Zinc Sulphate.....	6	dr.
Powd. Benzoin.....	2	dr.
Powd. Talcum.....	8	dr.
Oil Fennel.....	7	min.

Thoroughly triturate until a fine powder is made and use freely. Of use in treatment of chronic ulcers and suppurating sores, as an iodoform substitute.

### Salt Solutions for Infusions:

#### (IN PNEUMONIA)

Sodium Chloride.....	40	grn.
Sodium Bicarbonate.....	20	grn.
Distilled Water.....	8	oz.

Sodium Chloride.....	12	grn.
Sodium Bicarbonate.....	$7\frac{1}{2}$	grn.
Distilled water.....	$6\frac{1}{2}$	oz.

#### (IN DIABETIC COMA)

Sodium Chloride.....	1	dr.
Sodium Bicarbonate.....	$2\frac{1}{2}$	dr.
Distilled Water.....	2	pints

### Flatulence:

Chloroform Water.....	2	oz.
Distilled Water.....	2	oz.
Peppermint Water.....	2	oz.

Teaspoonful before meals.

**Nephritis in Children:**

Potassium Citrate.....	15	grn.
Syrup Lemon .....	20	min.
Water.....	to make	4 dr.

At one dose, every four hours, for a child from six to ten years of age.

**Rickets:**

Phosphorus.....	¼	grn.
Dissolve in		
Olive Oil.....	2½	dr.

**Add**

Powd. Gum Arabic.....	75	grn.
Simple Syrup.....	1½	dr.
Distilled Water .....	2½	oz.

Make emulsion. Shake. One teaspoonful daily.

Phosphorus .....	¼	grn.
Expr. Oil Almond.....	1	oz.
Powd. Acacia.....	4	dr.
Powd. Sugar.....	4	dr.
Distilled Water.....	1½	oz.

Shake and give one teaspoonful three times a day.

**Jaundice in the New-born:**

Ammonium Chloride.....	1	grn.
Syrup Acacia .....	4	dr.

A tablespoonful every two hours, for mild forms of the disease. First administer a mild laxative, as calcined magnesia or calomel, and secure proper elimination by the kidneys by giving potassium nitrate well diluted.

**Influenza:**

Codeine.....	2½	grn.
Cinchonidine.....	10	grn.
Acetanilid.....	30	grn.

Make into capsules. One every two hours.

**Discharge from Ear:**

Mullein Oil.....	1	dr.
Powd. Boric Acid .....	1	dr.
Pilocarpine Hydrochlorate.....	4	grn.
Glycerin.....	1	dr.

One drop in the ear, three times a day. Syringe the ear each morning.

**Asthma:**

Sodium Iodide.....	2	grn.
Sodium Bromide.....	2	grn.
Fld. Ext. Euphorbia Pilulifera..	3	drops
Ethereal Tinct. Lobelia.....	3	drops
Solut. Nitroglycerin (1%).....	½	min.

For one dose; repeat, if necessary, in half hour.

**Cholera Morbus:**

Very hot turpentine stupes, consisting of a tablespoonful of turpentine oil to the quart of water; and internally:

Comp. Spt. Ether....	} of each,	2 dr.
Comp. Spt. Lavender		
Camph. Tinct. Opium }		
Tinct. Capsicum.....		15 min.
Tinct. Ginger.....		2 dr.

One-half to one teaspoonful every two hours.

**Ointment for Scabies:**

Sulphur Ointment.....	1	oz.
Zinc Oxide Ointment.....	1	oz.
Storax.....	3	dr.
Green Soap.....	3½	dr.

Cleanse the parts well and apply the ointment two or three times daily.

**Painful Dentition:**

Citric Acid.....	1	grn.
Cocaine Hydrochlorate.....	1½	grn.
Tinct. Vanilla.....	10	min.
Simple Syrup .....	5	dr.

To be rubbed on the gums.

**Sweating of Feet:**

Balsam Peru.....	15	min.
Formic Acid.....	1	dr.
Chloral Hydrate.....	1	dr.
Alcohol .....	to make	3 oz.

Apply by means of absorbent cotton.

Boric Acid.....	15	grn.
Sodium Borate .....	6	dr.
Salicylic Acid.....	6	dr.
Glycerin.....	1½	oz.
Alcohol .....	to make	3 oz.

For local application.

Bathe the feet for several days in a weak infusion of walnut leaves and apply the following mixture:

Solut. Ferric Chloride .....	1	oz.
Glycerin .....	5	dr.
Essence Bergamot.....	40	min.

Apply to the feet twice daily.

Tannoform.....	1	dr.
Talcum.....	2	dr.
Lycopodium.....	30	grn.

Use as a dusting powder. Excellent for perspiration of feet and axillæ, intertrigo, etc.

**Smokers' Gingivitis:**

Salol.....	15	grn.
Tinct. Catechu.....	1	dr.
Spt. Peppermint.....	4	oz.

One teaspoonful in half a glass of water, as a mouth wash.

**Eczema and Urticaria:**

Prepared Calamine..	} of each,	1½ dr.
Zinc Oxide.....		
Carbolic Acid.....		¼ dr.
Lime Water.....		2 oz.
Rose Water.....		4 oz.

As a lotion. For children, reduce the proportion of carbolic acid.

**Chronic Eczema and Psoriasis:**

Creolin.....	30	min.
Ammoniated Mercury.....	10	grn.
Petrolatum.....	1	oz.

—D. WALSH.

**Eczema of the Scalp:**

Corrosive sublimate, 1 grn. in 1 oz. of vinegar, is recommended by Joseph Max to kill pediculi and remove the nits. This is used twice on the first day, followed for a few days by aluminum acetate solution to allay the irritation, and then by the following ointment:

Mercuric Sulphide.....	5	grn.
Sublimed Sulphur.....	20	grn.
Oil Bergamot.....	8	grn.
Vaseline.....	to make	1 oz.

**Lupus Vulgaris:**

Ammoniated Mercury.....	10	grn.
Carbolic Acid.....	10	min.
Powd. Camphor.....	10	grn.
Ointment Zinc Oxide.....	1	oz.

Apply locally.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**Some Recent Researches on Alcohol; Their Bearing on Treatment.**<sup>1</sup>—During the latter half of the nineteenth century the movement in favor of temperance in the use of alcoholic drinks has been steadily growing in extent and power. This tendency is quite as evident among the members of the medical profession as it is outside of it, and it is by no means confined to the English-speaking nations. The medical papers of Germany, France, and all the other nations of the Continent, have been much taken up of recent years with the alcohol question. It is not to be wondered at that a subject so many-sided, and with such vital relations to the welfare of nations, is frequently discussed, even in scientific societies, with an absence of that Olympian calm which is characteristic of the man of science. In the following paper, I wish to adhere as closely as possible to the scientific side of the question, to give a *résumé* of some recent work on the action of alcohol, and to estimate the effect of this work on our use of alcohol in certain classes of disease. While many experiments and observations seem at direct variance with one another, some important points are apparently fairly well settled; on these I wish to lay stress.

1. Let us consider alcohol as a stimulant, an agent for increasing the functional activity of certain organs or systems. Schmiedeberg, of Strassburg, holds strongly that alcohol acts on the nervous system as a paralyzing agent, and not in any true sense as a stimulant. He places it in the class of nerve and muscle poisons of the fatty series, in the special group containing such hypnotics as paraldehyde, chloral hydrate, sulfonal; and anesthetics, such as chloroform or ether. They have, in common, a marked effect in lowering the functional activity of the central nervous system, brain, cord, and medulla. Reflex excitability is also lowered or done away with, this being an essential distinction from the morphine group. While we speak, in a general way, of the strengthening, stimulating, and animating effect of alcohol, Schmiedeberg and others show it is very difficult to prove this on any definite organ of the body. In the mental sphere, the finer degrees of attention, judgment and reflection are lost first. Hence Dutch courage and the self-confidence of the after-dinner speaker. . . . No doubt, within certain limits, the brain may become used to the presence of alcohol, so that such derangement of function is less apparent, and individuals vary very greatly in their susceptibility. But many men, accustomed to the moderate use of alcohol at night, find that even a glass of beer in the middle of the day unfits them for doing their best mental work.

The stimulating action of alcohol on the *heart* is popularly supposed to require no proof. But exact observation will not admit such action. Schmiedeberg denies that there is even quickening of the pulse, apart from the stimulating circumstances in which alcoholic drinks are usually taken. Measurements with the sphygmo-chronograph by von der Mühl and Jaquet on eight young, healthy, or convalescent men showed that amounts of 50 to 100 Cc. diluted to a 20-per-cent. mixture, had practically no effect on the heart or circulation. H. C. Wood, experimenting on ani-

mals whose heart was failing from advanced chloroform anesthesia, found that in no case did alcohol, whether in small or large dose, produce any increase in size of pulse or arterial pressure; on several occasions the larger amounts of alcohol appeared to greatly increase the rapidity of the fall of arterial pressure. As to the influence of alcohol in cardiac weakness, Schmiedeberg says it might be advantageous in removing a vascular spasm, and thus making the circulation easier, or a too marked tonus in the cardiac inhibitory nerves might be lowered, or a condition of irritability in the cardiac motor ganglia might be soothed. But a direct stimulation of the heart muscle by alcohol is not yet demonstrated by experiment.

Binz claims that alcohol is a stimulant to the *respiratory center*. In two papers, published in 1899, he gives an account of experiments by himself and his assistants, which showed that the volume of air passing through the lungs when alcohol had been taken was increased through a greater depth of respiration, or in some cases, where the breathing was shallower, through a quicker rate. This effect was often seen, even when sleep had been produced through the wine. A wine of rich bouquet had a more marked effect than alcohol combined with water, sugar, and lemon-juice.

2. As to the effect of alcohol on the *tissues* of the body, there is a striking want of harmony even among scientific observers on many points. Whether alcohol is a food or a poison is still a matter of hot debate, as it was twenty or thirty years ago. It is generally admitted that alcohol in quantities up to 2 or 2½ oz. is, for the most part, oxidized in the body of a strong, well-developed man in the twenty-four hours; at all events, only from 2 to 5 per cent. of the amount taken can be recovered from the excretions. Oxidation of alcohol into carbonic acid and water implies the transformation of so much potential into so much kinetic energy, which may be employed to produce heat, or internal work, or external voluntary work. Atwater's experiments, the most elaborate hitherto devised, appear to demonstrate this view afresh. The general opinion is that alcohol in moderate doses thus saves the body fat, and that it does not save the proteids, in some cases even causes an increase of proteid metabolism. This question is very far from being finally settled; results vary evidently with unknown conditions. . . . Schäfer says: "It cannot be doubted that any small production of energy resulting from the oxidation of alcohol is more than counterbalanced by its deleterious influences as a drug upon the tissue elements, and especially upon those of the nervous system." Morbid anatomy provides us with a superabundance of evidence of these deleterious influences in chronic alcoholism, and between this condition and the merely functional impairment produced by single moderate doses of alcohol, there must be every conceivable gradation. Functional derangement implies a molecular abnormality in the protoplasm, which cannot be demonstrated to the eye, and which can be repaired if the necessary conditions are present; in the absence of these conditions, it may easily pass into organic alteration.

The poisoning of the tissues is shown in another way, by the impaired resistance to infectious attack. We are constantly seeing evidence of this in practice. Pneumonia and phthisis, for example, have been indubitably proved to occur more frequently, and to be of more serious significance, in drinkers than in persons whose blood is practically free from alcohol. Surgeons provide similar testimony in regard to the capacity for heal-

<sup>1</sup> J. Mackie Whyte, in *Edin. Med. Jour.*

ing quickly and soundly. Various recent sets of experiments on animals confirm clinical experience. The most complete and most important are those of Laitinen, of the University of Helsingfors.

As regards the whole class of diseases of the *nervous system*, there are few, I suppose, who would expect any benefit from alcohol except of a sedative or narcotic character.

Alcohol will give a temporary relief in worried states, in hypochondriasis, in neurasthenia, in neuralgia of women, in dysmenorrhea, but the cautious physician must hesitate long before taking the responsibility of prescribing it. In insomnia, the narcotic effect of alcohol is sometimes very marked, both in young children and adults, and it may be given disguised with a bitter or bromide. As Yeo says, "If we could be sure that there was no danger of producing the habit of alcoholic indulgence, we might find in it one of the least objectionable of narcotics. But except in large quantities it has little influence over obstinate cases." The great mixed mass of mental diseases, as found in asylums, are best treated without alcohol, whatever the cause or nature of the case. Men like Forel, of Zürich, have entirely banished alcohol from the asylums they control. Forel says the distinction between use and abuse of alcohol, difficult as it frequently is with ordinary men, is quite obliterated with the mentally unsound. Every use is misuse. Alcohol, he thinks, while directly responsible for a large proportion of insane, injures many more through its effect on the germ plasm. According to him, syrups, juices of fruits, lemonade, tea, and, above all, good water, should be substituted in all asylums and institutions for the treatment of nervous disorders.

I have not much to say about alimentary diseases. In some cases of simple dyspepsia a little alcohol with a meal, well diluted, is found to give relief, often no doubt through its sedative action on the nerves, or it may be through increasing the secretion of gastric juice, and thus aiding digestion. There are excellent substitutes for it, and I do not wish to improve on my own practice of treating the case without this aid. I am perfectly satisfied with my results. Other gastric conditions, catarrhs, ulcers, and so forth, also all intestinal disorders, are, I think, better treated without alcohol. Still, it is likely the relief given in colic and some cases of diarrhea by the home use of brandy will favor its continuance. I need not say that liver disorders are probably in all cases prejudicially influenced by alcoholic beverages.

In kidney diseases of all kinds alcohol should be rigidly withheld. We ought to protest against the popular use of gin as a diuretic. Glaser, working under von Jaksch, made 160 observations on fifteen individuals, and found that alcoholic drinks in relatively moderate quantities showed their irritating effect on the kidneys by the presence of leucocytes and casts, and uncommonly large numbers of crystals of oxalate of lime and uric acid, these latter being no doubt due to the prejudicial influence of the drug on metabolism. The effect of a single excess was not discernible after thirty-six hours, but continued use of drink was cumulative.

In no class of diseases is alcohol more generally considered indispensable than in *septic cases*, puerperal, perhaps, above all. A. Martin, of Berlin, the distinguished gynecologist, is (or was, eleven years ago), a strong advocate of this treatment, pushing the drink till diarrhea set in. One of his patients in the course of six weeks got seventeen bottles of cognac, thirteen of Burgundy, thirty-seven half-bottles of champagne, four and a

half of other strong wines, and six of porter, and she recovered. The virtue of alcohol consists, he holds, in its strengthening the action of the heart, and raising the resisting power of the individual to the attacks of the infection. The best comment I can make on this is to ask for proof in face of the experiments alluded to earlier in this paper. It must be borne in mind that all the other resources of modern medicine, including as concentrated and nutritious a dietary as possible, were employed.

Pneumonia may be taken as the most convenient example of acute infectious disorders. We all see many cases of acute croupous pneumonia, and its treatment has for long reflected the prevailing views of the physicians of the time. Many living men recall the huge doses of 12, 18, and even 36 oz. of brandy in the twenty-four hours, which were considered necessary in many cases, and it is quite possible that the results, as shown by statistics, might not look very bad. Statistics are really of small value in helping us to a conclusion. The mortality, in different localities, differs quite independently of treatment, from the class of patient, habits of living, vitality, and so forth. Even from the same records it is probable that no two men would deduce the same inferences. Moreover, as Aufrecht puts it, "in one and the same town, in one and the same hospital or medical district, among people who on the whole have experienced no change whatever in their social environment throughout a series of years, with a treatment of pneumonia by one and the same physician with exactly the same methods, the mortality within this series of years may be astonishingly varied." Nevertheless we must look to clinical records for a control test of the value of scientific laboratory work.

Alcohol is recommended in croupous pneumonia as a food or as a stimulant. Lauder Brunton, who is extremely restricted in his advocacy of alcohol says, in his *Materia Medica*, it "seems useful in acute disease running a limited course, where we wish to sustain the patient's strength until the crisis is past, as well as to prevent it sinking from debility afterwards." . . . There are, so far as I know, no exact and complete observations on the oxidation of alcohol in a feverish state of body. It is generally believed that much more can then be borne without damage to the nervous system. Certainly the ordinary signs of alcoholic intoxication do not appear so soon.

I have never seen pneumonia treated by the routine administration of stimulants, though I believe some practitioners still favor this method; nor have I seen enormous doses of 12 and 18 oz. of brandy given in the twenty-four hours in exceptional cases; but as house-physician or physician I have in earlier days often given, or seen given, 6 or 8 oz. in divided doses. I cannot say I ever saw benefit from those quantities; I believe I have seen harm in a few cases, but this I put down as an impression to which none but myself may attach importance. In more recent years, when my practice has been to give little or no alcohol in most cases, but rather to seek for more reliable substitutes, I feel better satisfied with the results. If grave doubts have been thrown on the beneficial action of any drug, still more if there is strong reason to believe it may be deleterious, it is a safe rule in medicine to withhold it. A few years ago a German doctor was tried for malpractice, for treating a case of pneumonia without alcohol. The judge obtained an authoritative opinion from experts, who said, in the present state of scientific opinion the dis-

creation of the practitioner must be the only guide. A curious parallel to this was a prosecution at Coblenz in 1844, when a Dr. Kirchgässer was tried for treating a pneumonic without venesection!

Aufrecht, of Magdeburg, in his recently published volume on pneumonia in Nothnagel's series, declares himself a decided opponent of the giving of alcohol in any routine way. The majority of his cases, especially in private practice, require and get no stimulant, but to decrepit persons coming into hospital, run down through various kinds of privations, he gives some pure alcohol, with orange extract, syrup and water (about the equivalent of 2 dr. of whiskey) every two hours. As a *pro re nata* stimulant in collapse, champagne is best, but he also recommends very strongly, camphor in subcutaneous injections (6 to 12 grn. in 24 to 48 min. of olive oil). Further, in the course of the disease, indications for stimulants not present at first may crop up, such as pallor, rapid wasting, marked lassitude, slight indifference to surrounding, with no great amount of fever. He is not going to throw out the child with the dirty water.

Barr, of Liverpool, says the feverish blood in pneumonia is sufficient stimulus for the heart, without alcohol, which may be reserved for convalescence. Alcohol does not increase the power of the heart, but reduces the blood pressure, already too low. In certain cases, as when the pulse is irregular and small and the vessel walls rather rigid, a small amount may do good. If alcoholic subjects are thought to need something, a good light draught beer or stout containing about 4 per cent. of alcohol is safest.

This question of the treatment of alcoholic subjects requires some special consideration. The complication of pneumonia with inebriety is very grave, and it has been a widely accepted dictum that alcohol must be given in such cases. There is no doubt if a man is habituated to the use of alcohol he can take it without the evidence of functional disturbance produced in the non-alcoholic; the tissues tolerate its presence as they may get used to arsenic, morphine, etc. On the other hand, there is a fear that the sudden and complete withdrawal of the stimulant might be followed by a dangerous depression or even by delirium tremens. The analogy with the stoppage of morphine in morphinomaniacs does not hold, for it is the generally accepted practice that it is best to stop the drug somewhat gradually in these latter, whereas it has been proved best in delirium tremens or habitual alcoholism to stop the alcohol at once and completely.

Aufrecht has extremely favorable results from his practice of stopping the alcohol entirely in delirium tremens, whether occurring with pneumonia or otherwise. My opinion is that it is bad practice to push the stimulant simply because the patient has been a heavy drinker, but in such cases one must be most anxious to support the strength by beef-juice, beef-tea, and milk, to stimulate with strong tea and coffee, to procure sleep and rest, and to bring in drugs such as camphor, strychnine, caffeine, carbonate of ammonia, and digitalis as they seem called for.

I should much like to discuss the employment of alcohol in some other classes of disease, such as wasting diseases (phthisis, diabetes), heart diseases of children, but I must at present forbear. My conclusion is, that we should clear our minds of prejudices regarding the stimulating and sustaining virtues of alcohol, and substitute for them more accurate ideas. When we prescribe alcohol, let us endeavour, in the light of the most recent scientific knowledge, to exercise at least as much thoughtful care in regard to our patient's welfare,

as when we order any other powerful drug, such as arsenic, morphine, or strychnine.

**Athletics Barred.**<sup>1</sup>—The College of Physicians and Surgeons of Chicago, after an animated debate, has decided henceforth to refuse recognition to athletics, and no longer gives official sanction and support to the college football team, which has taken so prominent part in intercollegiate athletic competitions. This step has been taken because experience has taught the faculty that college athletics have a demoralizing and disturbing influence on the students and interfere with the educational work of the college.

**Therapeutic Nihilism.**<sup>2</sup>—There are many men to-day who flaunt the title of doctor of medicine who know little of the science of medicine. They prostitute their title for the sake of the paltriest wage a useless specimen may earn. They haunt city and country alike. They may mask as regular, or have the "gall" to dare the open sky as blatant quacks. They, harpy like, seize upon every passion, frailty, or prejudice of humanity and seek to mold it to their ends. No life is sacred, no risk too dangerous, if the fee be assured. This condition exists; every physician knows it well. The causes that have brought it about, and the remedy for such causes, are all that concern the truly capable physician.

Any qualified man who enters a medical school whose standards are up to the recognized basis, may by hard work qualify himself for the practice of medicine. Many qualified men enter the best schools and pass their examinations, only to turn out to be blots upon the name of medicine; many qualified men enter schools of the lowest grade and emerge splendid doctors. Why? Admitting the influences which personality and environment bring to bear upon the case, the careful observer must discern a factor far beyond either, or both combined.

From what source are our "legally practising" quacks derived? Many of them hang the diplomas of the best institutions of this and other lands upon their walls. They have certainly passed the examinations of such schools, else they could not produce the diplomas which they exhibit so prominently. Why are such men seduced into quackery? Has their education been deficient in any point? Why is it that many able men, after practising a few years, abandon the profession, or turn to some "specialty" which they make but a masked quackery?

We believe the solution is found in two conditions. The first condition may be stated as: Given a man with a good education who has too much respect for the potency of drugs, or fear of untoward results following their use. The second condition as: Given a man who does not know much about drugs. The first class fear to give drugs in more than the doses stated in the books; naturally when they meet severe cases or cases in which the system has been accustomed to the use of certain drugs, their timidity prevents their giving enough to get positive results. In time they come to believe there is no efficiency or merit in drugs. The other class do not know enough of therapeutics to properly select the indicated remedy, and generally use the wrong drug; they too become discouraged. Both such classes are prone to drift from a wavering belief in medicine to a state of absolute therapeutical nihilism, when they have no belief in any medicine whatever. Once

<sup>1</sup> *Med. News.*

<sup>2</sup> *Med. World.*

such a feeling comes to rule in a man's mind, he is ripe for anything, and so it is that many such are quick to leave the ranks of the practitioner for "easier" fields. Once they convince themselves that medicine is a fraud, a greater fraud than the one they believe themselves to have been practising has no terrors or stings of conscience for them.

"The man who does not believe in medicine does not know how to give medicine," said the elder Professor Wood. It is true to the letter. The remedy for therapeutic nihilism is a more thorough knowledge of therapeutics and remedial agents and methods. If you feel yourself losing heart, read more and study up new books. Once your enthusiasm flags, you are on the road to therapeutic nihilism, which will later prove to lead to the grave of your professional and moral reputation.

#### Paludism as a Cause of General Paralysis.<sup>1</sup>

—In the *Revue de Médecine* (Nov., 1900), Dr. E. Marandon de Montyel, medical superintendent of the Ville-Evrard Asylum, has called attention to the little known but important fact that paludism must be reckoned a cause of the peculiar cerebral degeneration which constitutes general paralysis of the insane. After referring to the classical case observed by Lemoine and Chaumier, of a workman, aged thirty-eight years, who was free from syphilitic or alcoholic taint, but who nevertheless developed general paralysis of the insane as the result of malarial infection contracted at the age of twenty-three years and of repeated attacks of ague since then, it is pointed out that the only thing lacking to complete the chain of proof was the absence of a necropsy after the patient had died with all the clinical signs and symptoms of general paralysis. It was also pointed out that in this case there was an absence of neuropathic or hereditary taint, and Lemoine and Chaumier concluded that the toxic action of the malarial poison was the cause of the disease. From the study of eight cases of paludism followed by symptoms of general paralysis or pseudo-general paralysis, de Montyel concludes that the following may be accepted: 1. Some of the cases result from chronic and the others from acute paludism; in the present article there are four cases of each kind. 2. In four cases of acute paludism three showed clearly that the malarial poison could produce, after a brief delay, a progressive general paralysis of cerebral functions ending in death, while in one case the symptoms were those of pseudo-general paralysis and were both non-progressive and curable. In all the above four cases it was probable from their histories that some form of neuropathic predisposition existed. 3. Chronic paludism was capable of producing a true progressive and fatal peri-encephalitis in predisposed subjects. Of four cases of chronic paludism three incontestably showed this. Two of these three showed a syphilitic taint and a predisposition to cerebral congestion. In the fourth case, however, there was no such taint and careful examination disclosed that chronic paludism was the sole discoverable cause. This case was very remarkable and was as follows. The patient, a man forty years of age, single, a shoemaker, was free from hereditary taint, whether neuropathic, congestive, or vesanic, and devoid of physical or mental stigmata of degeneracy. He was of good physique, well-developed and intelligent in mind, of temperate habits, and free from syphilis and from cranial injury. Sixteen years prior to admission as a patient at the Ville-Evrard Asylum he lived

in a malarial district in Algiers and contracted intermittent fever of the quotidian type. In spite of all treatment this recurred every summer during the months of July and August, and he suffered also from neuralgias of the face and head. He remained single, and till the age of thirty-nine was of normal mental condition. He then (at the beginning in 1892) began to suffer from weakening of his mental powers and a fear of becoming mad. He became gloomy and preoccupied, suffered with his head, and developed insomnia. He complained of loss of memory and of lack of power of the association of ideas. In the summer of 1892 he had a recurrence of malarial fever, the second attack of which was followed by an epileptiform cerebral seizure, from which he rallied only to pass into confirmed and progressive general paralysis. The clinical symptoms with regard to speech, the pupils, and the facial muscles were typical of general paralysis, and he developed both grandiose and hypochondriacal delusions. He died within eleven months, and the necropsy showed the usual lesions, both macroscopic and microscopic, found in the brains of general paralytics.

**A Word to Our Contributors.**<sup>1</sup>—We desire to call attention to a matter which to many readers may seem trivial, but which to the editor is really of considerable importance; and if those who contribute articles, clinical reports or abstracts to this journal will reflect upon and profit by the few words we have to say on the subject, they will add greatly to our comfort and peace of mind. We refer to the preparation of manuscript. The ideal manuscript is, of course, typewritten. Such manuscript it is a pleasure to edit. We are aware, however, that the typewriter is a luxury not always available and written manuscript may be made just as easy for both editor and printer, if the author will only take a little pains with it. We have several times been obliged to return manuscript to the authors, simply because before making it ready for the printer it would have been necessary to re-write every word of it. Each one of us, probably, has some favorite, petty economy, the exercise of which has become almost second nature. The bane of the medical editor is the man whose petty economy is ink and paper; the man who writes a fine cramped hand with lines close together and who uses scraps of paper. The editor himself can usually read the manuscript without difficulty, but to put it in such shape that the printer can read it is a very different matter. The contributor who desires to receive the blessing of the editor and perhaps be remembered in his will, for it is well known that the medical editors all die rich, will always write on full sized sheets of paper, leaving plenty of space between the lines for corrections and will make his letters, particularly when he is writing medical terms or proper names, as plain as possible. Printers can get along very well with almost any kind of copy which has to do with plain, every-day subjects; if they can't read a particular word they can usually substitute another without changing the sense. Medical copy, however, is very different, as nearly every manuscript contains many words which are new to the printer and of the meaning of which he is absolutely ignorant. Unless these words are plainly written the editor must rewrite every one of them. Spelling, punctuation and the use of capitals are other details which require but little extra time on the author's part, but the neglect of which makes the manuscript very tedious and unsatisfactory to edit.

<sup>1</sup> *The Lancet*.

<sup>1</sup> *St. Paul Med. Jour.*



## Book Reviews

A good and practically complete representation of the art of therapeutics as it exists and is practiced to-day will be found in the **SYSTEM OF PRACTICAL THERAPEUTICS**, edited by Hobart A. Hare. While this system is based upon the work by Professor Hare published ten years ago, it is practically a new book, as nearly one-half of the articles are entirely new, while the rest of the matter has undergone a thorough revision, incorporating the very latest therapeutic dicta. The entire work, which is published in three volumes, contains, including the indices—which, by the way, are quite complete—2,622 pages, and we think that in this case we can give no better idea of its scope and extent than by presenting a table of contents of each volume, with authors' names.

Volume I contains the following articles: General therapeutic considerations, Horatio C. Wood; prescription-writing and the combination of drugs, Joseph P. Remington; general sanitation, Henry B. Baker; nutrition and foods, including the treatment of obesity and leanness, I. Burney Yeo; general exercise, E. M. Hartwell; the rest cure for neurasthenia and hysteria, John K. Mitchell; electro-therapeutics, A. D. Rockwell; hydrotherapy (one of the best articles in the volume), Simon Baruch; climate, S. Edwin Solly; mineral waters and their medicinal uses, James K. Crook; massage and Swedish movements, Robert E. Moore; disinfection, W. M. L. Coplin; diseases of the thyroid and thymus glands, including myxedema, cretinism, Graves's disease, and obesity, S. T. Meltzer; chronic articular rheumatism, rheumatoid arthritis, and gout, James Stewart; treatment of diabetes mellitus, James Tyson; diseases of the blood, Ralph Stockman; the present treatment of syphilis, Edward Martin; the treatment of tuberculosis, Lawrence F. Flick; scrophulosis, Walter Chrystie; and scurvy, or scorbutus, Charles Edward Banks.

Volume II deals with the therapeutics of the fevers and infectious diseases; diseases of the respiratory and circulatory systems, of the digestive system and kidneys, of the nervous system, and diseases of the skin. Among the contributors to this volume are Hare, Anders, Welch, Packard, W. H. Thomson, Shattuck, Lauder Brunton, M. Allen Starr, and Stelwagon.

The contents of Volume III are as follows: Anesthesia, C. L. Leonard; surgical technique, C. U. Frazier; fractures and dislocations, H. R. Wharton; minor surgery and bandaging, G. W. Spencer; cerebral concussion and shock, Joseph Ransohoff; pleural effusion and empyema, abscess and gangrene of the lung, A. Y. McCosh; peritonitis, appendicitis, paratyphilitic abscess, and obstruction of the bowels, George R. Fowler; obstruction of the intestines, Edward Martin; diseases of the rectum and anus, Joseph M. Mathews; genito-urinary diseases in the male, W. F. Belfield; genito-urinary disease of women, E. E. Montgomery; pregnancy, parturition, and the puerperal state, Edward P. Davis; treatment of diseases of the eye by the general practitioner, Casey A. Wood; treatment of diseases of the ear by the general practitioner, S. MacCuen Smith; diseases of the nasal chambers and associated affections, E. Fletcher Ingals; and diseases of the uvula, pharynx and larynx, D. Braden Kyle.

We wish to call special attention to the fifteen original full-page plates in this volume, illustrating the successive steps in the operation for appendicitis, in Dr. Fowler's article. They are

unique and remarkable for their clearness; we believe that a physician who had never seen the operation for appendicitis performed would have no difficulty in performing an appendectomy, by simply studying the plates. In the article on Anesthesia and Anesthetics there is no mention made of the Bier-Tuffier method of spinal cocainization, which, taking into consideration the fact that the work bears the imprint 1901, is certainly surprising. Any physician who wishes to know the last word of modern therapeutics cannot well afford to be without this work. (Lea Brothers & Co., Philadelphia and New York, 1901. Three volumes. Price, per volume, cloth, \$5; sheep, \$6; half morocco, \$7.)

**THE INTERNATIONAL MEDICAL ANNUAL**, which is now in its nineteenth year, has always been a welcome visitor. In a concise and compact form it has always been striving to present the latest advances in medicine, surgery, and pharmacology, and we must say that for a one-volume book the information contained therein is remarkably varied and complete. Among the contributors to this volume are such men as William Murrell, Græme M. Hammond, H. P. Loomis, Boardman Reed, E. H. Fenwick, Robert Abbe, Herbert W. Allingham, Prof. C. Ruata, and Prof. Robert Saundby. The volume contains fourteen plates, some of them in colors, and forty-five wood engravings. The paper, printing, and binding are good, and the price is very reasonable. (E. B. Treat & Co., 241 W. Twenty-third street. Price, \$3.)

As we stated in another place, we believe that quiz-compendes do serve a useful purpose if properly used. But, however that may be, if we are to have quiz-compendes, we might as well have the best ones, and we believe that this epithet is applicable to Blakiston's series. A **COMPEND OF HUMAN PHYSIOLOGY**, by Dr. Albert P. Brubaker, has now appeared in its tenth edition, and is thoroughly up-to-date. The chapter on the physiology of nerve tissue has been entirely re-written in accordance with the latest researches in histology. We commend this compend to the attention of the medical student, for whom it is especially intended, but we think we are not far from right in saying that the physician will also derive considerable benefit from it. He will find there a number of things that he has either forgotten or not known before. (P. Blakiston's Son & Co., Philadelphia. Price, 80c.)

We welcome the appearance of a new journal devoted exclusively to hygiene and sanitary science. It is edited by George H. F. Nuttall, and among its collaborators are the best known men in America and England. The name of the publication is the *Journal of Hygiene*, and it is issued quarterly at Cambridge, England. (New York publishers: The Macmillan Company. Price, \$4.50 per year.)

The differential diagnosis of the various forms of disease affecting the gall bladder and the choledochus is admittedly very difficult, and Professor Hans Kehr has given us some valuable points on the subject in a monograph containing detailed histories of numerous cases. The full, rather extensive title of the work of some 370 pages is "INTRODUCTION TO THE DIFFERENTIAL DIAGNOSIS OF THE SEPARATE FORMS OF GALL-STONE DISEASE BASED UPON HIS OWN EXPERIENCE GAINED IN 433 LAPAROTOMIES FOR GALL-STONES." The translation is quite remarkable; it is the most



peculiar German-English that we have had occasion to read in a long time. In some places it appears that the rendering from German into English was done verbatim. By the way, where did the translator get his authority for the word "Amnesis," which he uses throughout the book? If "anamnese" is to be rendered into English by one word, that word is "anamnesis," and not "amnesis." Still, these are minor points which do not detract much from the value of the monograph. (P. Blakiston's Son & Co., Philadelphia. Cloth. Price, \$2.50.)

The various aspects and conditions of nasal obstruction are ably considered by A. Marmaduke Sheild, surgeon to St. George's Hospital, London, in his **LECTURES ON NASAL OBSTRUCTION**. The lectures are three in number, and deal with the causes and diagnosis of the principal varieties of this trouble, the treatment, and the treatment of nasal polypi. The book contains an excellent colored plate, twenty-seven illustrations, and is well printed and tastefully bound. (P. Blakiston's Son & Co., Philadelphia. Price, \$1.50.)

In the **PRINCIPIEN DER SÄUGLINGSERNAHRUNG** (The Principles of Infant Feeding) Dr. G. Sommer briefly reviews the subject from the modern standpoint. This pamphlet is the sixth in the series of the *Würzburger Abhandlungen*, and while nothing essentially new or original is presented, still the author deserves credit for laying stress on the point that if we must have a substitute for the mother's milk, animal milk should be that substitute. He therefore leaves the numerous artificial foods out of consideration. (A. Stuber's Verlag, Würzburg, 1901.)

The fourth edition of Dr. Thorington's **RETINOSCOPY**, revised and enlarged, has just made its appearance. Four editions in four years is fairly presumptive proof of a book answering its purpose satisfactorily. It is a small volume, of barely seventy pages, but the subject of retinoscopy is handled therein clearly and well. The illustrations are very good, eight of them being new. Binding, paper and printing leave nothing to be desired. (Philadelphia: P. Blakiston's Son & Co. Price, \$1.)

THE **BULLETIN OF THE PATHOLOGICAL INSTITUTE OF THE UNIVERSITY OF WÜRZBURG** (*Berichte über Arbeiten aus dem pathologischen Institut der Universität Würzburg, Von Dr. Max Borst, vierte Folge*) contains some instructive chapters on histological and pathological subjects. Some of the contributions relate to the hereditary transmission of the tubercle bacillus, congenital syphilis of the liver, kidneys, and lungs; hemochromatosis; genesis of lymphangiomata; multiple gangrene of the spleen; primary sarcoma of the spleen, etc. (Würzburg: A. Stuber's Verlag.)

THE **TRANSACTIONS OF THE TWENTY-FOURTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION** come to us in the form of a well-printed and well-bound volume of over 200 pages. Some of the papers contained in the Transactions are of more than ordinary interest, and the numerous illustrations of rare dermatological and pathological conditions increase the value of the text. The general practitioner will be well repaid for the time spent in perusing the report. (Frank Hugh Montgomery, M.D., Secretary, Chicago.)

## Publications Received

- Some Diagnostic Details. By Wm. Edgar Darnall, A.B., M.D. Reprinted from the "Medical News," Jan. 12, 1901.
- Nephrorrhaphy. By Charles P. Noble, M.D. Presented at Annual Meeting of American Medical Association, June, 1900.
- Fifty-second Annual Report of Central Indiana Hospital for Insane. Oct. 31, 1900.
- Treatment of Nasopharyngeal Adenoids. By Louis J. Lautenbach, A.M., M.D.
- Some Further Results in Treating Ears by Massage Methods. By Louis J. Lautenbach, M.D. Reprinted from "Journal of the American Medical Association," March 12, 1898.
- Hygiene in Therapeutics. By Dr. Edwin W. Pyle. Reprinted from the "Medical Times," Feb., 1901.
- New Points in the Anatomy, Histology, and Pathology of the Rectum and Colon. By J. Rawson Pennington, M.D. Reprinted from the "Chicago Medical Record," Dec., 1901.
- Announcement of School of Chemistry of Columbia University, 1901-1902.
- Nasal Hygiene. By Edwin W. Pyle, M.D. Reprinted from the "Medical Summary," Jan., 1901.
- History of Typhoid Fever, with Statistics. By James M. Anders, M.D., Ph.D., LL.D. Reprinted from the "Pennsylvania Medical Journal," Nov., 1900.
- Gall-stone Crepitus and Friction, with Illustrative Cases. By J. M. Anders, M.D., Ph.D., LL.D. Read at meeting of Philadelphia County Medical Society, Oct. 11, 1899.
- A Few Thoughts Indicating a Causative Connection between the Uric Acid Diathesis and Astigmatism Against the Rule. By Louis J. Lautenbach, A.M., M.D. Read before the American Medical Association, June, 1899.
- The Causes and Treatment of Urgent and Serious Conditions in the New-Born. By Samuel Wolfe, A.M., M.D. Reprinted from the "Philadelphia Medical Journal," Feb. 2, 1901.
- Thirteenth Annual Report of the Waltham (Mass.) Hospital, for the year ending Sept. 30, 1900.
- Address in Obstetrics. By Charles P. Noble, M.D. Reprinted from the "Pennsylvania Medical Journal," Nov., 1900.
- The Use of Suprarenal Extract in Diseases of the Middle Ear. By Lewis S. Somers, M.D. Reprinted from the "Therapeutic Gazette," Dec. 15, 1900.
- Proctorrhaphy: The Suspension of the Rectum for the Cure of Intractable Prolapse and Inversion of that Organ. By Charles P. Noble, M.D. Reprinted from the "American Gynecological and Obstetrical Journal," Dec., 1900.
- Sixth Biennial Report of the Eastern Indiana Hospital for the Insane, for the period ending Oct. 31, 1901.
- Aseptic Minor Gynecology, with Demonstrations. By Augustin H. Goelet, M.D. Reprinted from "Journal of the American Medical Association," Oct. 6, 1900.
- Suprarenal Gland in Hay-fever. By Lewis S. Somers, M.D. Reprinted from the "Philadelphia Medical Journal," Dec. 8, 1900.
- Imperfect or Deficient Urinary Excretion as Observed in Connection with Certain Diseases of the Skin. By L. Duncan Buckley, A.M., M.D. Reprinted from the "Journal of Cutaneous and Genito-Urinary Diseases," March, 1900.
- Hydrencephalocoele. By Carl Beck, M.D. Reprinted from the "Journal of the American Medical Association," Dec., 1900.

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

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### The Rockefeller Medical Research Fund

ONE of the most encouraging evidences of the moral and intellectual growth of this age is seen in the way rich men are disposing of some of their surplus wealth for the benefit of their fellow creatures. The direction which the generous impulse of some twentieth century philanthropists has taken betokens an unusually high plane of intelligence on their part.

The bestowal of funds upon scientific research is to make an investment for the race the far-reaching beneficence of which is sure, if wisely directed, to prove so vast as to be incalculable in its good. The information that John D. Rockefeller has just made a gift of \$200,000 to encourage medical research, will certainly be received with great rejoicing by every medical man whose heart beats sympathetically with practical humanitarianism. None of this money is to be consumed in the erection of buildings. It is intended that it shall all be spent directly in research work. The facilities of the great American universities (Johns Hopkins, Columbia, Yale, Harvard, etc.) are to be utilized in doing the work. Both principal and interest are to be consumed, and it is rumored that still greater sums will be forthcoming.

This munificent gift only needs to be wisely utilized to prove in time the greatest boon to humanity that ever rich man bequeathed. It contains the promise of re-

sults so extremely desirable and so far-reaching in their consequences that it is not improbable that in time all previous bequests will pale into insignificance before it. Unfortunately, however, the methods devised for the disposal of this money may misdirect it and bring results much less satisfactory. The donor's scheme for the prosecution of his work has not yet been fully set forth to the public, and it is barely possible that it has not yet fully matured in his own mind. It is to be sincerely hoped that the plan which he finally adopts will be sufficiently broad, liberal, and comprehensive to take in every department of medicine and particularly to give attention to such departments as are being practically ignored by existing research laboratories, because they fail to promise brilliant results to investigators. The whole history of pure science shows us that investigation proceeds along ruts. One great mind leads away into a new field, and then the whole host of workers pursue him into it, sticking there until led out again by some new pioneer. The result of this is a lop-sided development of science.

For some years medical research appears to have been looked upon as synonymous with pathological research. We hope that no such unilateral view will be taken in the expending of this money; but there are already grounds for fear that this may happen. We had hoped to find that on the

board of trustees selected *every* branch of medical research was represented, but were disappointed. An ideal board would contain a pathologist, a physiologist, a therapist, a general practitioner, a surgeon, a bacteriologist, an histologist, a pharmacologist, and a biological chemist—each pre-eminent in his particular domain. The bringing together of such a board as this would have assured a mutual fertilization of thought, and so developed composite suggestions of a broad, virile character. A board constructed of men, however eminent, whose thoughts, training, habits and peculiar type of skill are all cut on a common pattern can never do more than imitate what has already been done. The very fact that the eminence of the men who have been selected for the board is all in one particular field constitutes the greatest drawback. American medical research should soar far above a mere duplication, on a larger scale, of the work of the Pasteur or Koch institutes. To imitate what they are doing, and doing well, is to belittle the genius of our country and cripple our efforts at originality. Let our workers take a course as unique for to-day as Pasteur's work was in his day. Let us profit by the lesson of experience and learn that the holding back of any one department of any science means the holding back of all. The mutual anastomosis of results and the mutual suggestiveness of consequences are a necessary part of sound induction. Our present lack of knowledge in therapeutics is holding us back from making discoveries in pathology, and our lack of knowledge in pathology is holding us back from making discoveries in therapeutics. The development of the one without a corresponding development in the other leads to confused results and false conclusions. It must be admitted by all medical men that therapeutics and pharmacology are being shamefully neglected. None of our possessions here have received the cultivation which they deserve. Little by little the crude forces of natural selection have been at work preserving here and there something of merit, but no proper effort has ever been made to sift the whole mass and discover

what value and how much or little of value can be credited to any given drug of the Pharmacopœia. Why leave this important field uncultivated and permit the weeds and brambles of superstition to hide from us its important truths, which are essential to a full rounded-out view of even pathology? Instinctively the public clings, with hope, to drugs. That these can and do produce results for either good or evil, is a certainty. Let us, then, try to discover just what and why these results are. We know that somehow a certain average of fair results follows their use. Why they succeed or why they fail, under conditions which may be apparently identical, we cannot tell positively. If pathology and pharmacology could be brought together in an effort to solve such mysteries it would be a great gain to the world. If the different lines of treatment pursued by medical men having a reputation for skill could be brought into sharp mathematical contrast as regards results, even this insignificant bit of knowledge would be a useful empiric guide to others. If we could learn with certainty whether or not in the average of cases the giving of analgesics, antipyretics, hypnotics, cathartics, etc., has a beneficial or detrimental effect on certain diseases, learning at the same time which benefited, and which did harm while appearing to do good—such knowledge would not be despised by the profession. Indeed, there is a vast amount of possible knowledge concerning the most common of our drugs that the profession would be glad to receive if part of Mr. Rockefeller's money could be diverted into this line of research. It will be all right to go on perfecting our knowledge concerning serums, ferments, anti-toxins, and glandular secretions; concerning bacteria, micrococci, streptococci, and protozoa; and concerning the life habits of the various hosts of pathogenic micro-organisms. But such work should not wholly drive out all consideration for potassium iodide, strychnine, and quinine. Our inherited half-knowledge of drugs needs cultivating just as much as does the study of the newer productions of the pathologist.

[Written for MERRICK'S ARCHIVES]

**NOURISHMENT BY ORDINARY FOOD**

By A. L. Benedict, A.M., M.D.

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AN apology may be due to the reader for discussing this trite subject, especially when not even the writer feels that he can offer anything essentially novel or do more than repeat in different form what he has already presented to the medical profession. Yet ample excuse for repeatedly bringing this important topic before the medical profession is found in the fact that the majority of patients who apply for relief from digestive disorders, come to the office with the preconceived notion that they must forego the pleasures of the table and must submit to a regimen which is a discomfort to themselves, an inconvenience to the household, and which is inadequate to meet the demands of a normal appetite. Surely the general prevalence of such an idea among the laity must indicate that the medical profession is still misinformed on this important subject.

The man who takes it for granted that "all men are liars" is bound to deceive himself a little oftener than that one will be deceived who assumes that everything told him is the truth. So I believe that the assumption that modern culinary art and the average appetite are essentially wrong, is more dangerous than the acceptance of our habits of eating, without question. Some time ago, I was one of a number of physicians invited to attend a demonstration of diet-kitchen methods, which resulted in the formal recommendation to three training schools for nurses to receive instruction in the preparation of foods for the sick at the hands of the demonstrator. The demonstrator was a graduate of a well-known institution, in which both the theory and the practice of cooking for the sick are inculcated. Under the spell of her extremely pleasing presence, medical men tasted of her daintily served and perfectly prepared "food" and declared that it was appetizing and nutritious. The same substance set upon their desk by the office boy, and served with a brush instead of a spoon, would have been applied to its legitimate use of sticking pieces of paper together. That there is both proteid and carbohydrate nutrient in flour paste—not to mention the modicum of fat—cannot be denied, but it is another matter to make gruels and porridges the basis of a sick-room dietary.

In typhoid fever, we are taught that the patient is best nourished by placing him suddenly upon a dietary which would be in-

sufficient and intolerable in health, which is deficient in carbohydrates—the main force-producers in the system; which is deficient in iron—whose ultimate physiologic purpose is too well understood to require discussion; which is constipating; which is an excellent pabulum for the colon bacillus and undoubtedly for the bacillus typhosus itself; which is deficient in chlorides, and which is almost altogether lacking in sapid material to stimulate the appetite or the digestive secretions. If milk becomes absolutely unavailable, the next most orthodox nutriment is an animal broth, rich in the toxic extractives with which the emunctories are already overburdened. Per contra, we are assured that a cracker or piece of bread or toast, even if thoroughly masticated, is apt to reach the ileum as solid food and to inflict mechanical damage. While it is beyond question that the diet of typhoid should be rigidly limited as to kind, frequency, and amount, it should not be forgotten that milk is more truly a solid food than most bread stuffs and cereals, and that it is possible to come somewhere near satisfying the needs of the patient, as manifested by his appetite, without either puncturing his bowel mechanically or creating a chemical disturbance that may lead to the same dire result.

Curiously enough, it is quite a common practice to institute a diet of concentrated proteid with small amounts of cooked starch in gastric affections, and to place patients with intestinal disease upon a diet rich in fats and vegetables. Yet this practice places in the diseased stomach food that, normally, is largely digested in the intestines, and vice versa.

Amylaceous dyspepsia is a bugbear that need not be feared except in rare instances. While it is true that starchy and saccharin foods are extremely likely to ferment and cause flatulence, it is almost always possible to check such fermentation by the use of mild and harmless—if properly administered—internal antiseptics, and thus we may continue to give the patient the benefit of carbohydrate nourishment. In nine cases out of ten, starch indigestion is due to a failure of the normal antiseptic of the gastric juice—hydrochloric acid. If we place such patients on a meat diet, we overlook the fact that hydrochloric acid is a digestant as well as an antiseptic, if, indeed, its antiseptic action is not largely due to getting rid of proteid matter which would otherwise putrefy. Starch indigestion is really a relative term. Some animals do not digest starch at all in the stomach. Man digests only cooked starch by ptyalin, and

comparatively little of that under ordinary circumstances. On the other hand, amylase of the pancreas can digest both cooked and raw starch readily, so that comparatively little carbohydrate passes the bowels, except cellulose. Thus, the indication in such instances as are commonly called amyloseous dyspepsia is neither to deprive the patient of a necessary food nor to secure its digestion in the stomach by artificial diastases, but to insure it against fermentation during its passage through the stomach. There are cases, however, in which diastase is clearly indicated; namely, those in which the pancreas is at fault and those in which there is a distinct need of superalimentation.

Nearly all "rigid" dietaries neglect the need of the system for a large amount of glucose, in order to provide, by its oxidation, heat and other forms of kinetic energy. The body can no more oxidize enough fat for this purpose than a coal stove can burn grease in sufficient amount to heat a room. Proteid matter can be oxidized in sufficient amount to supplement the small amount of fat that can be utilized in the system, but only at the expense of additional work on the part of the emunctories to eliminate an excess of extractive matter and of toxic nitrogenous substances formed within the system. Ordinarily it is best to have the body form its quota of glucose from starch. In the infant, glucose is produced from the lactose ingested. In the adult diet of most civilized countries, a variable amount of saccharose supplants part of the starch. Just as there are certain cases in which it is advisable to introduce predigested proteid, so there are cases in which pure glucose or cane sugar should be administered. The general belief that sugar causes catarrhal inflammation is doubtless true, to the extent that all hygroscopic substances are more or less irritating and that all concentrated solutions call forth exosmosis of liquids. If the sugar is given properly diluted or if it is introduced when the body requires it immediately, there is little danger of producing inflammation, and this danger is offset by the urgent indication for a supporter of vital processes. Nearly all physicians and surgeons, except the German, make the serious error of omitting glucose from nutrient solutions intended to be introduced by enema or by gastric or intestinal fistula. As the blood contains a ferment or ferments that can effect the oxidation of practically all hexoses and double hexoses at body temperature, there exists a theoretic basis for introducing sugar solutions by hypodermoclysis in conditions of malnutrition in

which the ordinary routes cannot be used. Unfortunately, as yet there has been accumulated little or no clinical evidence as to the practicability of this method. I have introduced at once 50 Cc. of glucose into the circulation in each of two cases of failure of nutrition, when gastric digestion was impossible and rectal enemata could no longer be tolerated. The immediate result was good, but death supervened.

An editorial in the *Medical Times* has called attention to the value of bread in dietetics, and Thompson utters the epigram that "if bread is the staff of life, butter is its golden head." There has been great improvement in bread-making within the last twenty years, and it is now possible in almost every American city to secure wholesome bread in considerable variety, so that it may be used for long periods without tiring the appetite. Graham bread is often a compound of poor flour and molasses, but genuine Graham bread, of whole wheat flour, may usually be found. However, a good deal of nonsense has been written about the value of the outer coats of the wheat kernel. Most soda-, water-, and butter-crackers, and hard-tack or pilot bread, are wholesome. Toasting converts some of the starch into dextrin and hence acts as a digestant. Zwieback is practically stale toast. It is now possible to get the old-fashioned salt rising or "milk emptins" bread. This is raised with leaven—that is, with what yeasts and bacteria are accidentally present in the air. It is either very appetizing or very distasteful.

Meats are served in too great abundance in most American city homes, and at practically all pretentious restaurants and hotels. A pound a day is a full ration for an adult, and even this is excessive unless the other food articles are singularly lacking in proteid. Much of the meat served at restaurants and hotels is partly decomposed. It is scarcely necessary to say that roasted or broiled meat is, in general, better than fried or stewed. Yet meat well fried is not so indigestible as is supposed. Salt and smoked meats, though slowly digested, are often appetizing and they are not so prone to putrefaction in the bowel as fresh meats. In most digestive disorders, it is better to allow well-fried ham or boiled ham which the patient craves, than rare roast beef, steak or chop, which he eats with disgust. In all hyperchlorhydric cases salt is to be avoided, and in all hypochlorhydric cases it is indicated. To a large degree individual appetites must be consulted, and the main thing to remember in dietetics of meat is that most of our patients have had too much

and should be directed toward vegetable proteids.

Most soft, starchy vegetables can be given in moderate amounts except in diabetic cases; although in fevers, it is better to restrict the administration of this form of food. All vegetables that have hard seed coats must be avoided in all forms of gastric stagnation, although meal made of the same vegetables may be permissible. Bulky vegetables containing little nutriment and much cellulose must be avoided in nearly all cases coming under the physician's care, with the exception of mild cases of scurvy, which are by no means rare. While it may be doubted that raw vegetables convey cancer parasites, it certainly is a fact that all foods except fruits, nuts, and milk are better cooked than raw, both on account of being sterilized and of becoming more digestible. The writer personally would scarcely except milk, believing that it is much better used in connection with other substances or as a nutritive basis for beverages than as a food in bulk, except for infants, for whom it should be prepared to imitate human milk as closely as possible.

The worst sins of modern cookery are in overseasoning, and in the preparation of doughy masses of flour. Cake, pastry, etc., should be withdrawn from the dietary of most patients. Fortunately, simpler and really more appetizing desserts are easily supplied. Ice cream, provided that it is really made of cream or even milk of good quality, is wholesome, nutritious, and is liked by most persons. Nature's desserts, fruit and nuts, are in most instances fairly aseptic by reason of their nearly air-tight coats, and many are absolutely antiseptic in mild degree. Gelatin is at least a harmless basis for appetizing dishes and it is somewhat nourishing as a fuel-food. Whipped cream lends an *éclat* to the simplest fruit, whether fresh or preserved. One of the best desserts, whose food value has been discussed under the head of sugars, is candy. It has an undeserved odium from the fact that it is almost invariably used to excess after a period of denial of a perfectly natural appetite, and is eaten between meals when the stomach should be resting. Any other food would produce bad results if generally taken under such circumstances. While the average liver will transform 150 Gm. (5 oz.) into glycogen, without allowing the passage of an excess of sugar into the blood, to appear later in the urine, this is an extreme amount, since it represents a third of the total daily ration of carbohydrate for an adult exercising actively. The greater portion of carbohydrate is

naturally taken in the form of undigested starch. While it is neither customary nor desirable that the meals should be equal, it is probably safe to say that, under ordinary circumstances, not over 250 Gm. (8 oz.) of carbohydrate should be taken at the heartiest meal, and that not over 50 Gm. (12 dr.) of sugar, in any form, should be eaten at once. If candy were served regularly as a dessert at dinner, probably very few persons would care to eat more than 10 to 25 Gm. at once; yet, under prevailing customs, it is not uncommon for a person to consume ten times this amount between two meals.

Most persons coming under the physician's care need to be warned against tea and coffee; chocolate, which is a closely allied drug, is also usually served too strong. All such beverages should be considered as means of introducing hot water and dilute milk into the body, and should be used only strong enough to flavor, not to exercise a physiological action. Conversely, many patients are unaware of the fact that water is not only a necessary but a really pleasant beverage. With ordinary diet, at least a liter (1 quart) of water should be taken daily as such, allowing a glassful at each meal and during the evening. While it is better to have the stomach contents moderately dilute, soup, tea, coffee, watermelon, and other juicy fruits supply all the water needed at many meals, and it is better that water itself should be drunk between meals and in comparatively small quantities at a time. In gastric dilatation and atony, no water should be taken with meals, and 1 to 2 liters (quarts) should be drunk in quantities of not over 50 Cc. (1½ oz.) at intervals, beginning an hour or so after a meal. Alcoholic liquors are rarely indicated. The milder malt liquors do more harm to the stomach and bowel by exciting fermentation, the stronger liquors expend their energy rather on the nerve centers and the glands, especially the kidneys and liver, though renal and hepatic sclerosis are by no means limited to users of alcohol. While alcohol is a valuable drug to hasten the circulation and to reduce arteriole spasm, it is never directly a stimulant, and much less a tonic. Thus, alcoholics should have no place in a dietary, unless the patient has been so accustomed to their use that it is deemed inexpedient to withdraw them immediately. I wish to emphasize this point, as so many physicians perpetrate the folly of prescribing alcoholic beverages to aid nutrition directly, or to stimulate the stomach, or with the idea of securing a general elevation of the vital forces.

[Written for MERCK'S ARCHIVES]

**UREA IN THE TREATMENT OF TUBERCULOSIS**

By Augustus A. Eakner, M.D.

Professor of Clinical Medicine in the Philadelphia Polyclinic, Physician to the Philadelphia Hospital, Assistant Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases.

It may be that there was a time in the evolution of the science of bacteriology when too exclusive importance was attributed in the causation of disease to the invading bacteria, to the neglect of the susceptibility of the individual; but the broad-minded men in the profession—bacteriologists as well as clinicians—have never lost a proper sense of the relation of both influences. It would be pedantic to attempt to make the one more important than the other, inasmuch as both are essential and both may vary in intensity. It must, however, be admitted that if it were possible for the susceptibility to exist in the absence of the exciting agent, the specific disease could not be generated; while so long as the exciting agent existed there could never be assurance that such susceptibility might not at some time be developed. On the other hand, it is true that there are a number of bacteria without recognized pathogenic activity, and, while the question may seem far-fetched, it may be asked whether this depends upon properties inherent in the bacteria or residing in the absence of susceptibility to them.

However these things may be, we know that if we can prevent access of the pathogenic agent, without even a consideration of the susceptibility of the individual, the particular disease will be prevented; so that from the practical point of view we must endeavor to do all of that, in part or in whole, which we know we can do and which holds out the greatest promise of good; namely, inhibition of the activity of pathogenic bacteria. At the same time, the question of susceptibility must not be ignored, and no effort should be spared to strengthen the resistance in every way possible. This is particularly so inasmuch as the influence of such resistance may, by reason of its hereditary transmission, be appreciable not alone in the present, but also in the future. The principles that underly the prophylaxis of disease on the lines discussed are applicable also to the treatment of disease.

A favorable omen of progress in medicine may be found in the increasing appreciation of the curability of tuberculosis. It is recognized, further, that not one but many factors may contribute to this end, the

most important of which are apparently physical as contradistinguished from medicinal—namely, light, air, food—and it would be a mistake to attach exclusive or undue importance to any one. One phase of this subject is discussed in an interesting communication by Dr. Henry Harper<sup>1</sup> on the employment of urea in the treatment of tuberculosis. Having observed that tuberculosis is apparently less common in carnivorous than in herbivorous animals, and that it is likewise less common in families in which gouty, rheumatic, and calculous disorders prevail, he concluded that this relative immunity might be due to the presence of urea and uric acid in the tissues, and he was thus led to the employment of urea in the treatment of tuberculosis. This he administered in scruple doses, three or four times daily, by the mouth; or hypodermically, 40 grains to 4 drams of distilled water. In addition, pure air and gentle exercise are enjoined, with plenty of nutritious food, especially such as is rich in albumin, and including daily one kidney well cooked and  $\frac{1}{2}$  pint of concentrated beef-tea. At the same time, medication was not neglected; iron, cod-liver oil, mineral acids, strychnine, pepsin, and creosote being given as required. A number of illustrative cases are recorded, in which the results were remarkable, not less on account of their favorable character than on account of their rapidity. No increase in the elimination of urea by the kidneys was found as a rule. Experimental observations serve to show further that tubercle bacilli failed to grow on meat broth to which urea was added, although they grew on simple meat broth.

[Written for MERCK'S ARCHIVES]

**SOME CONSIDERATIONS CONCERNING THE TOXICITY OF ACETANILID**

By Samuel E. Earp, M.S., M.D., Indianapolis, Ind.

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In general practice it is not unusual to observe cases of toxicity from the use of acetanilid. Some of them, however, are so mild in character that there appears to be no reason for alarm, and when the drug is discontinued nature counteracts the poisonous manifestations. There is another class of cases in which fatal results seem imminent, and perhaps, too, in instances where the minimum dose has been administered. Whether this is due to an impurity in the

<sup>1</sup> *Lancet*, March 9, 1901, p. 694.

preparation or an unusual susceptibility of the individual is an open question.

Perhaps no other drug is used with the same freedom, so universally and indiscriminately, with little or no regard for the ultimate results. It is purchased for trivial ailments by persons who are entirely ignorant of its therapeutic action. No drug within my knowledge is so universally advertised as an analgesic. True, some catchy name is used to designate the mixture of which the chief component part is this agent. It is safe to assume that there are very few drug-stores that do not have a "special," so-called, of their own make to cure headache, dysmenorrhea, la grippe, etc., and these almost invariably contain acetanilid. Many pharmaceutical firms have several such compounds, and furthermore the traffic is so general and commonplace that the headache powder containing acetanilid can be purchased from the corner grocery or sundry store.

If it were a safe agent, it surely would be a boon to the lower classes who desire a cheap drug to relieve pain under certain pathological conditions. Will a knowledge of the drug warrant this conclusion? Briefly, note the effect of its administration. In large doses, depression of the heart-action, prostration, collapse, diminished alkalinity of the blood, subnormal temperature, destruction of red blood corpuscle, and imperfect oxidation. These are some of the untoward effects. Perhaps it may be said that those are the toxic manifestations and not the therapeutic action. Grant this to be true, but are we able to determine accurately where the former commences and the latter ends? Fifteen grains is considered a maximum dose, yet I have seen one-third this quantity produce alarming symptoms. Several authors advise that 3 grains each hour may be given with safety; I have seen patients follow this rule and reach the danger line before a quantity had been taken that would equal the maximum dose. I do not desire to convey the impression that I condemn the remedy when it is used judiciously; on the contrary, I have myself obtained good results from its use, but I do desire to emphasize the fact that extreme caution should be observed.

It is accepted that acetanilid is always contraindicated when the patient is in an enfeebled condition; but where there is vigor, strength, plenty of vitality, and where such a positive remedy as aconite could be given with impunity, this remedy is considered a safe one. Just such cases are the ones that occasionally show toxic symptoms. For instance, at the outset of some acute infec-

tious disease, or perhaps a supraorbital neuralgia, and too, at a time when the patient has not been confined to bed. Why these uncertainties? Is the therapeutic dose of to-day but the toxic dose of to-morrow?

The first occasion I had to use acetanilid was in 1886, and since that period I have noticed cases of poisoning by the use of 8 grains in individuals who had quite frequently used larger doses heretofore. We may have no knowledge of its deterioration, yet may it not be so, or may we not more rationally assume that an impure product has been obtained? In fact, I believe it has been suggested that acetoluid may be in some instances mixed with acetanilid and sold as a genuine article. The history of the patient's condition has thrown no light upon the subject. To say that an idiosyncrasy exists in all such persons would be folly; however it is occasionally so. It would be more reasonable to assume that the individual is at one time more susceptible than at another. If this be true, what are the conditions that produce this undue susceptibility? An examination of the patient gives negative results. These are the facts that confront us, and since acetanilid is at times so very positive in its action, it demands caution and watchfulness. After its administration, diuresis and diaphoresis usually are well pronounced, but not necessarily so in all instances. As a rule, when there is a lowering of the temperature the skin is profusely bathed with perspiration, yet this condition is not by any means infallible; in fact, the skin may be dry and at a time when there has been a reduction of temperature from 2 to 4° F. This shows that diaphoresis is not the only cause of the reduction of the temperature. In several instances in which small doses had been repeated equal to a quantity that would be considered safe, I have seen pronounced cyanosis and impending collapse which gave very grave apprehension.

The claim that oxyhemoglobin changes into methemoglobin, that there is a deficient oxidation, also a destruction of the red blood corpuscle, naturally shows that the condition is fraught with danger. The milder class of cases resemble somewhat a patient under the influence of nitrous oxide gas, yet in this condition there are indications of asphyxiation but less depression, and the antidotal effect of the oxygen from the surrounding atmosphere very quickly resuscitates the patient. In the case of acetanilid poisoning, the depression seems to be so pronounced that the



response to a stimulus is accomplished with the greatest difficulty, especially in cases of a severe type. There is a permanency in the action of the drug which antagonizes antidotal measures, and this too at a time when prompt action is demanded to defeat a fatal issue.

I have observed that persons who were quiet during the time in which several doses were taken, were more likely to suffer from the untoward effects, while those that had taken the drug for a similar ailment during a strain from vigorous exercise were less likely to show ill effects.

Physicians who are reasonably cautious in the use of acetanilid oftentimes protect the system by some auxiliary agent, and instruct the nurse respecting the conditions that indicate an abandonment of the remedy. Hence, if small doses are given and there is a decline in the temperature or a mild manifestation of depression, a cardiac stimulant given early will overcome the unfavorable symptoms. Consequently, the cases of toxicity from the use of this drug which frequently come under our observation, are those in which a nostrum has been purchased by some thoughtless person for the purpose of relieving some form of pain.

The following case is an apt illustration and also possesses some interesting features: On February 7, 1901, a telephone message stated that Mrs. C. had had a severe chill, that the surface of her body was turning dark, and that she was mentally dull. I arrived at the residence at 1 P. M. and found the woman, aged thirty-five, in a state of approaching collapse. From the history of the case I ascertained that four headache powders had been purchased at a drug-store nearby at about 9 A. M. One of them had been taken each hour for the purpose of relieving a dull pain in the crown of the head. The last powder was taken at noon. The surface of the body presented an ashen gray appearance, and the mucous membrane was of a much darker hue. A sister suggested that the inside of the mouth appeared as if charcoal tablets had been used, and this expression accurately described the appearance of the tongue and adjacent mucous membranes. The skin was cold and dry, not bathed in perspiration as might have been expected. The intellect was dull and the patient was unable to summon sufficient strength to complete a sentence in conversation. The temperature was 96° F., pulse 60, respiration 10. The patient had been menstruating normally, but for two hours there had been a complete cessation of this function. It would appear that the amount of acetan-

ilid consumed should have been sufficient to banish all pain, but if the patient's words under these circumstances could be considered reliable there had been no relief from pain. I concluded that the patient was on the verge of collapse from the toxic effects of acetanilid, and resorted to the use of tincture of digitalis, strychnine nitrate, alcohol baths, friction, and dry heat to the surface of the body. When vitality was sufficiently restored for the patient to swallow, I gave a combination of aromatic spirit of ammonia, brandy, and tincture of capsicum. At 7 P. M. the symptoms were ameliorated, but the patient's condition was still abnormal. On the following morning, at 9 A. M., the pulse and temperature were slightly below the standard, the face and hands slightly dusky in appearance, and there was a condition of extreme prostration. The surface of the body was not entirely devoid of the symptoms of cyanosis until the evening of the second day. After this period, by the judicious use of nutrients and gentle stimulation, the patient gradually convalesced, and at the expiration of ten days did not need further medical supervision.

The druggist who manufactured the powders informed me that each powder contained 3 grains of acetanilid, 2 grains of sodium bicarbonate, and 1 grain of caffeine. Hence, between the hours of 9 and 12 o'clock, the patient had consumed 12 grains of acetanilid, which is less than the recognized maximum dose.

In the use of acetanilid I observe these precautions: Under no circumstances do I give it independent of other agents for the relief of pain; if used for this purpose, codeine makes a good adjuvant and it should be guarded by some cardiac stimulant. In the general use of this remedy accidents occur, because the intervals between the doses are too short and quite frequently the second dose is given when the first one has accomplished the desired result. I instruct the nurse in the physiological as well as the therapeutic action, and the appropriate antidotal measures. Under these precautions this positive agent need not be abandoned, and favorable results may be obtained with a comparative degree of safety.

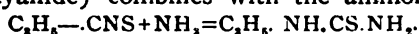
**PULVIS ACETANILIDI COMPOSITUS.**—The following formula (official in the National Formulary) will advantageously replace the numerous mixtures and headache powders with which the market is flooded: Acetanilid, 50 grn.; caffeine, 2 grn.; tartaric acid, 3 grn.; sodium bicarbonate, 45 grn. Dose: about 10 grn.

[Written for MERCK'S ARCHIVES]

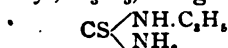
**THIOSINAMINE: ITS PHARMACOLOGY  
AND THERAPEUTIC USES**

By William J. Robinson, Ph.G., M.D., New York

THIOSINAMINE (chemically, allyl sulphocarbamide; allyl sulpho-urea, rhodaline) is prepared from oil of mustard. Two parts of oil of mustard are mixed with 1 part of absolute alcohol and 7 parts of ammonia water of a sp. gr. 0.900. The mixture is warmed to about 104° F. (40° C.) and then concentrated on a water-bath. On cooling, crystals of thiosinamine separate out.<sup>1</sup> The reaction is very simple: The oil of mustard (chemically, allyl sulphocyanide) combines with the ammonia:



Its chemical name, allyl sulphocarbamide or allyl sulpho-urea, will be better understood by comparing it with urea, which is chemically carbamide. The formula of urea is  $CH_4N_2O$  or  $CO(NH_2)_2$ , the graphic formula is  $CO \begin{smallmatrix} \diagup NH_2 \\ \diagdown NH_2 \end{smallmatrix}$ ; by changing the oxygen in carboxyl group to sulphur, and replacing the hydrogen in one  $NH_2$  by the radicle allyl,  $C_3H_5$ , we get thiosinamine:



Thiosinamine appears in the form of colorless monoclinic or rhombic crystals, of a bitter taste and slight garlic-like odor. It is but moderately soluble in water and very soluble in alcohol and ether.

*Mode of Administration and Dose.*—Thiosinamine has been administered both by mouth, in the form of capsules, in doses of  $\frac{1}{2}$  to 3 grn., and hypodermically. For the latter purpose it has been used either in the form of a 10 to 15-per-cent. alcoholic solution, or as a 5- or 10-per-cent. hydro-alcoholic solution with a small amount of glycerin added. The hypodermic dose also ranges from 1 to 3 or 4 grn. The injections are practised once, twice or three times a week, and are preferably made in the intrascapular or gluteal region. They are painful, but not excessively so. Very recently Unna (see below) recommended the application of thiosinamine in various dermatologic conditions, in the form of soaps and plasters.

*Therapeutic Uses.*—The credit for having introduced thiosinamine to the medical profession belongs to Von Hebra, who reported his experiments with the drug in the treatment of lupus and old cicatrices to the Second International Dermatological Congress.<sup>2</sup> He injected the drug subcutaneously in the neighborhood of the nodules and obtained a favorable local reaction,

without in any way interfering with the organism in general. Also in cicatrices following the spontaneous ulceration of lupus or the applications of caustics, the tissue became soft and pliable. A case of ectropion caused by the destructive action of a lupus patch about the eyelids was completely healed. In chronic glandular swellings (not syphilitic) he also obtained very good results, causing diminution or entire disappearance of the swellings. The following year Hebra<sup>3</sup> called attention to the systemic action of thiosinamine, pointing out that the drug exerts its elective action on lowly organized tissue, even if given internally or injected into a spot very remote from the affected part. In the same year Dr. Alfred Hans<sup>4</sup> tried it in urethral strictures with favorable results, and Dr. Latzko<sup>5</sup> and Dr. Kalinczuk<sup>6</sup> in diseases of the female generative organs. Latzko tried it in forty gynecological cases, such as tumors of the uterine appendages, perimetritic and salpingitic inflammation, etc. He found that its softening action on cicatrices was undoubted; in many cases the tumors became diminished in size.

'Prof. Unna' and others also reported upon its action as a resolvent in cicatricial contractions and as a remedy in local tuberculosis: in the latter disease it seemed to possess a specific resolvent action, and also produced a great increase in the secretion of urine. In cicatricial contractions its effects were really remarkable. Thus, in one case where the hands were useless on account of the fingers being drawn tightly into the palms, the fingers were straightened out and the patient was able to resume work. In another case, a knee that was completely flexed and useless from cicatricial contractions, the thiosinamine brought about a remarkable improvement, so that the leg could be straightened almost completely. Some cases of corneal opacities of long standing being cleared up under the influence of thiosinamine were also reported at that time. Various authors also began to mention the favorable influence of thiosinamine on deafness following otitis media and ankylosis of the ossicles, caused by cicatricial or fibrous adhesions.

In 1896 Dr. Sinclair Tousey,<sup>8</sup> after experimenting with thiosinamine for over a year, declared that "it possesses positive curative properties in causing the resolution of benign and malignant tumors, and the absorption of cicatricial tissue." Especially useful in his hands has it proved in the treatment of keloid. In one case of keloid, following an extensive burn on the arm, affecting two areas, each the size of a silver

dollar and projecting  $\frac{3}{4}$  of an inch above the surface, thiosinamine produced a complete cure. The hypodermic injections were made into the left biceps twice a week. The form used was a 10-per-cent. solution in absolute alcohol, and the dose ranged from  $\frac{2}{3}$  to  $1\frac{1}{2}$  grn. After twenty-seven such injections the cure was complete.

Dr. Richard C. Newton<sup>9</sup> reported two cases, one of extensive cicatrix following a severe burn, the other of multiple keloids, in which the injections of thiosinamine produced great improvement. In the case of the cicatrix, the patient was unable to use her right arm freely on account of a powerful band of cicatricial tissue which had formed along the lower border of the right axilla and pinned her arm to the side. After eleven injections, patient could use her arm freely and was discharged from the hospital.

In another paper, published about a year and a half after the first one, Dr. S. Tousey<sup>10</sup> gives additional information, both from his own experience and that of other physicians, regarding the product. The solution that he recommends for hypodermic use is made by dissolving 10 parts of thiosinamine in 100 parts of a sterilized mixture of water and glycerin. The full dose of this he considers 12 to 15 minims, injected into triceps or gluteal muscle every three days. Some have used 30 min. of this solution (containing 3 grn. of thiosinamine) as a usual dose, and in many cases it is well borne. The water-glycerin solution of thiosinamine keeps well and is non-irritant. No deleterious by-effects have been noticed following the use of the drug, though if it be administered in too large or too frequent doses slight nausea, headache, and malaise may result in some cases. On the contrary, if carefully administered, thiosinamine produces a general tonic effect. The author also administered the thiosinamine by the mouth: 3 grn. were given every day for eight weeks, without disturbance of any sort and with the therapeutic effect sought for. There is no reason, the author says, why this should not become the general method of administration, as it certainly is the simplest. For corneal opacities, the author advises the injection of 12 min. of the 10-per-cent. solution into the triceps every three days until at least twenty-seven injections have been administered. Marked and permanent improvement in vision may be promised, but the improvement in appearance is not so striking.

One of the author's correspondents reports the cure or clearing up of a cataract under thiosinamine treatment, and should

similar experiences be met with by other observers, an important addition to ocular therapeutics would be made.

Another use the author finds for thiosinamine is as a palliative in inoperable malignant growths. In one case of carcinoma of the bladder, an exploratory suprapubic cystotomy showed the impracticability of a radical operation. For a number of weeks after there was excruciating pain and the urine was thick with pus and blood. Thiosinamine was given hypodermically and the urine at once cleared up and the pain diminished. The treatment was continued for a long time and certainly seemed to palliate the symptoms, though, of course, it did not prevent a fatal termination.

In the treatment of urethral strictures, intramuscular injections into the thigh, with the occasional passage of a sound, have resulted "in the cure of strictures of a type usually amenable only to cutting operations." According to a German surgeon an *impassable* stricture will readily admit a filiform bougie after a few days' treatment with thiosinamine. This also occurred in a case of the author's.

Concerning deafness, the author urges a trial of thiosinamine in that form in which the tympanic contents are incapacitated for vibratory transmission by bands and masses of fibrous tissue. The drug, administered systemically, not locally, acts here as elsewhere to produce softening and absorption of cicatricial tissue. An instance is quoted illustrating the value of this treatment.

Dr. Chas. H. Hubbard,<sup>11</sup> who has used the drug in conjunction with other treatment, says he is satisfied that thiosinamine is worthy of careful consideration in catarrhal deafness. In the same paper he reports three cases of defective vision—one of choroiditis disseminata, one of diffused opacity involving both corneæ, with well-defined maculæ, and one of senile cataract—in which treatment with thiosinamine effected considerable improvement.

Recently Unna<sup>12</sup> has been experimenting with thiosinamine applied locally, and with results highly satisfactory. He used it in the form of a soap of 5-, 10- or 20-per-cent. strength, and also incorporated with his plaster mulls. The plaster proved more effective and less irritating than the soap and gave good results in fibrous tumors of various kinds, in keloids, leprosy and syphilitic lesions, and in the scars from small-pox. In the latter case a mask of thiosinamine plaster mull was worn during the night. No irritation or pain was caused by it. On parts of the body not covered with

hair and protected by the clothing the plaster may be worn permanently and this is the most effective method. On the face, hands and scalp, it is better to use the soap, letting it dry on, or the plaster may be applied at night and the soap used during the day.

If we summarize the literature on thiosinamine—both that which has been abstracted above and that which has not been so utilized, the following conclusions seem justified:

1. The beneficial effects of thiosinamine in cicatrices, keloid, chronic glandular enlargements, and lupus are undoubted.

2. The drug seems to possess a beneficial influence in corneal opacities and in deafness due to sclerosis and adhesions. Further testimony is needed in this direction.

3. The drug is claimed to have given good results in urethral strictures and in gynecological affections; but the number of reports is small and further evidence is necessary.

4. Taking into consideration the softening and resorbent effects of the drug, it seems rational to believe that it would produce good effects in such conditions as hypertrophied tonsils, hypertrophied turbinates, and in various hypertrophies of the skin. A cautious trial of the drug in the above conditions seems highly desirable.

5. From the latest reports it appears that when used locally—applied to or injected directly into the lesion—thiosinamine produces a stronger and more prompt impression than when administered internally.

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[Written for MERRICK'S ARCHIVES]

## AN ESSAY ON OPIUM AND ITS ALKALOID MORPHINE, AND THEIR TRUE VALUE IN MODERN THERAPEUTICS

By Adolfo Luria, Ph.D., M.D., Chicago

(Continued from p. 136, April issue)

### PART B

XI.—We now come to a discussion on the therapeutic value of opium, and its influence upon different organs of the body.

(a) *The Brain and Nervous System.*—One of the most common affections we have to deal with is neuralgia in its various and

numerous forms. Though differing very greatly in its manifestations, the treatment of neuralgia is practically almost the same, no matter in what part of the organism the disease occurs. While pain is the feature par excellence in these affections, still opium is not the drug to be exhibited; but in migraine, whether of lithemic origin or not, the pain is so exquisitely severe that a very prompt and speedy relief is imperative. I have found in cases where the attack does not occur oftener than about once in a month, that a hypodermic injection of morphine,  $\frac{1}{8}$  to  $\frac{1}{4}$  grn., combined with atropine  $\frac{1}{100}$  grn., just before the attack, will often shorten and mitigate it, and many a time I have seen this injection also ward off the attack itself for more than ninety days. In the meantime, it is always my endeavor to seek for the cause and to try to effect its removal either by medicinal or surgical interference. Stretching of the affected nerve, removal of Meckel's ganglion, has been proposed and practiced in many cases, but so far, from a clinical point of view, with rather unsatisfactory results. But if the attack occurs oftener than once a month, I am very loath to prescribe opium, because opium does not relieve the cause of pain but only acts as a palliative measure; therefore the frequent administration of the drug to the patient must gradually undermine his will power and render him in the course of time an habitual opium eater. In superficial neuralgias, and in cervico-occipital or cervico-brachial neuralgias, we are sometimes justified in administering a hypodermic injection, but in doing so never intrust the needle to your patient; never show him what you use or how you use it, and what I have found to be of greatest help is to insist that the patient take to his bed. Experience has taught me that by so doing I secured better rest and quicker effect, while the after-effects, if any, were not apt to be of such a depressing nature.

The profession differs in opinion concerning neuralgia. Some are inclined to say that once a patient has contracted neuralgia he will always be a neuralgic. Others again take a more optimistic view of the situation and say all you have to do is to fill up your patient with opium and a permanent cure is effected. Neither of these views conforms to clinical experience. In sciatica, lumbago, intercostal neuralgia, etc., where the attack does not return for a long period, by giving your patient an opiate you not only may abort an attack but you may greatly lengthen the interval. During a severe attack less harm is done in prescribing opium than by not giving it at all; but in the case of inter-

costal neuralgia be cautious, examine the heart, and satisfy yourself that angina pectoris does not exist with the neuralgia. In this contingency, if you use opium at all, do not repeat the dose. In sciatica, appearing at times as a one-sided lumbago and quickly passing into the leg, use an injection of morphine at bed-time, as by so doing you will often ward off an attack.

In acute cerebrospinal meningitis, headache is a very prominent symptom. Authorities here considerably differ as to whether opium should be used in such cases or not. I have had experience with eighty-six cases, and in fifty-three of these I had occasion to administer it quite boldly and with marked success, because pain, restlessness, and delirium, often prominently present in this disease, call for opium. By relieving pain, by allaying the cerebral irritation, we give relief without interfering with the application of an ice cap or other remedial measures that the particular case may call for. Of particular value are the opium preparations in the basilar and the spinal varieties, because they produce a stimulating and tonic effect upon the nerve centers to such a degree as to at times border on magic. Particularly is this true of morphine, which seems to exercise a wonderful tonic effect upon the center in the medulla oblongata. It is often astonishing how well and for what a long time most of these patients will tolerate the opium derivatives without any deleterious after-effects. I do not wish, however, to be understood as being a warm advocate of the exhibition of opium and its preparations in cerebro-spinal meningitis, especially in the early stages. In the aged and in children I never use them on account of the great susceptibility of infants and old people to this drug, but whenever and wherever I am compelled to give them I first tentatively feel my way. This once found, I proceed boldly and give the drug in full doses; usually, however, in combination with the bromides, chloral, sulfonal, or allied sedatives. It is the habit of many general practitioners to prescribe an opiate for an ordinary headache. While such a course might relieve the headache, the after-effects are in themselves worse than the original trouble and the recurrent attacks of the headache are apt to be worse than the preceding attack.

As opium tends to increase the flow of blood to the brain, we can take advantage of this physiological effect in general anemia. As a rule patients with general anemia are very apt to exhibit also a cerebral

anemia, and in such cases morphine or preferably codeine, is often effective. In chronic anemia, and especially in those cases that are marked by mental depression, opium has proven to be an almost invaluable adjuvant. A formula that has done excellent service is:

Codeine Phosphate.....	to	grd.
Elixir Pepsin.....	1 ½	oz.
Fennel Water.....	to make	4 oz.

One teaspoonful three times daily.

or

Deodor. Tinct. Opium.....	½	oz.
Syrup Raspberry....	} of each. enough	4 oz.
Peppermint Water...		

to make  
One teaspoonful every four hours.

Again, in typhoid fever splitting headache is a prominent symptom, appearing early in the disease and disturbing the sleep of the patient. The headache and the wakefulness add to the disturbances of the nervous system, thereby contributing largely to the increase of the temperature. Opium under such trying conditions will allay not only pain, but it will lower the temperature to a certain degree. While it cannot in any way abort or change the course of the disease, it contributes, however, to making the patient more comfortable and places him in a condition to better resist the inroads of the disease. Opium, however, is not the drug to be indiscriminately used in the management of typhoid fever, smallpox, or erysipelas, except in those cases where the phenomena, such as delirium, restlessness, and headache, call for its use. An agent that relieves disturbances of the nervous system will also influence any other symptoms in connection therewith. Thus, opium is a means of reducing temperature, not because it has any antipyretic properties, but because it allays pain and the concomitant irritation of the nervous system. In children small doses are very apt to produce irritation. I recall the case of a six-months-old boy, an Italian, whose mother had given him only a half teaspoonful of sciroppo di Papavero (poppy syrup, a favorite remedy with Italian mothers for the colic, so often met with in young children of this nationality) to allay his pain, but where twitching of the muscles and quite a severe attack of convulsions occurred. I saw this very same phenomenon in two other cases under similar circumstances, so that it is hardly probable that they were mere coincidences. In disease, however, where an irritating poison has been taken, such as strychnine, or in tetanus, opium diminishes the excitability. Under such circumstances

it must be given in bold, free doses. In acute inflammation of the cord, pain is severe and opium can cautiously be used with advantage for the first few days. In spinal irritation, with tenderness along the spine, the pain is fleeting and shifting in position. Under such circumstances opium is absolutely worthless, nay, harmful. Such pains are apt to occur also in dyspeptic, lithemic, gouty, and above all hysterical patients without any lesion of the cord at all, and their nature should therefore be carefully differentiated. In convulsions of children, however, due to overloading of the stomach and putrefactive changes as from decaying food, remove the cause and at the same time give a small dose of opium, preferably the camphorated tincture, in 10- to 20-minim doses, according to the age, and you will give relief. Opium is also satisfactorily applicable for the treatment of conditions arising from kidney troubles following scarlet fever. Convulsions due to malarial poisoning, occurring instead of a chill in children, are apt to recur with any paroxysm. This can often be easily controlled by opium, but remember that under these circumstances we cannot be governed by the usual dosage—give fearlessly double the amount in order to obtain a good result. In convulsions occurring during dentition, give opium in very small doses in conjunction with bromides or chloral. A good formula to prescribe is the following:

Chloral Hydrate.....	8	grn.
Morphine Acetate.....	½	grn.
Syrup Orange Peel..	} of each,	1 oz.
Orange Flower Water		

One teaspoonful every four hours.

or

Sodium Bromide.....	15	grn.
Camph. Tinct. Opium.....	30	min.
Simple Syrup.....	1½	oz.
Fennel Water.....	to make	2 oz.

One teaspoonful three times daily, or as often as the case requires.

Greater tolerance toward opium and its derivatives is exhibited in hysteria than in any other affection, except severe pain. Hysteria may simulate almost any disease. Its phenomena are often very puzzling and misleading. As a rule the subjects are neurotic women, but not so seldom as one is apt to believe they are met with in men. Here give asafetida or a bad tasting mixture, and behold! their pain will be relieved more quickly than with any opiate.

In delirium tremens, bromides, sulfonal, and chloral are efficient remedies, but they have one serious objection—in severe cases they must be given in very large doses to produce any effect, and before this is obtained the heart may become so deeply de-

pressed that death may ensue. This is not the case with opium. I usually prescribe it as follows:

Morphine.....	2	grn.
Dil. Hydrochloric Acid.....	30	min.
Sodium Bromide.....	2½	dr.
Chloral Hydrate.....	15	grn.
Peppermint Water.....	to make	4 oz.

One tablespoonful every hour till restlessness subsides; then at longer intervals.

In paresis, a progressive organic disease of the brain, wakefulness is again an unpleasant symptom. Here opium is the safest and most reliable drug for the production of sleep. It is used in various forms of insanity accompanied by wakefulness. By giving it with sulfonal, trional, or other allied remedies, the dose to be exhibited is much smaller. In insomnia due to overstrain from study, fast living or business cares, the patient will often resort to hot whiskey or other alcoholic drinks to combat his sleeplessness. By this his digestion necessarily becomes impaired and in the long run his general health will fail. To this class of people it would be very unwise to give opium as a hypnotic to produce sleep, because there is no pain present to indicate or call for its use, and the mental depression that necessarily must follow it is of a graver apprehension than the original trouble. Direct all your attention to correcting his habits and produce sleep with hyoscyamine but not with opium, because ninety-nine out of a hundred of this class of patients will become confirmed morphomaniacs. In diabetes, whether due to irritation in the floor of the fourth ventricle or to a disturbance of the great splanchnic nerves of the abdomen or to both—it may also be due to a prolonged anxiety or to some sudden shock or fright—opium is one of the best remedial agencies, because it diminishes the quantity of sugar, lessens the amount of urine, and lowers the specific gravity. The explanation for these phenomena is that opium is to a certain degree a nerve sedative and as such it acts indirectly through the nervous system. Persistent neuralgia or sciatica often accompanies diabetes; therefore, when you fail to accomplish a cure in sciatica, suspect diabetes and examine the urine. Of all the opium preparations in the treatment of diabetes not one gives such satisfaction as codeine. In my experience it has proved valuable in diabetes to regulate the nerve centers, to lessen the amount of urine, to diminish the quantity of sugar, to lower the specific gravity, and to improve the patient's appetite; last, but not least, to produce sleep. With this I enforce a rigid vegetable diet, with most gratifying results.

I am fully aware that authorities differ as to the alkaloid of opium to which preference should be given. In my estimation, borne out by clinical experience, codeine is the one to which preference ought to be given, because it agrees better with the digestive tract of the diabetics. Diabetic patients exhibit a fairly large tolerance to it, even if albuminuria should be present. Usually I limit myself to one single large dose, which I direct the patient to take at bed-time in order to secure the fullest beneficial effect. I start with a dose of about 3 grn. and gradually increase to 9 grn., and this amount I administer for an indefinite period of time.

How about asthma? Asthma is a neurosis, a disturbance of nerve centers. In using opium early and boldly we can control the spasm. This is one of the conditions where great care is unnecessary. All that you can expect to do, here, however, is to relieve your patient; but inasmuch as a disturbance of the digestion is usually associated with asthma, we cannot rely on the stomach, so it is better to give the drug hypodermically. If an asthmatic patient applies to me and is a stranger, I give him Magendie's solution, 5 min.; if known to me, I even give 15 min., and if this fails to give relief, repeat the dose in two hours. Belladonna, as is well known, is our best respiratory stimulant, so by combining atropine with morphine we have a better means to combat the attack than with morphine alone, as by this combination the unpleasant after-effects of the latter are vastly diminished. Belladonna, too, is not only an excellent respiratory stimulant, but it is also an antispasmodic and narcotic. Another advantage the combination offers is that it often obviates the repetition of the dose.

(b) *The Respiratory System.*—Morphine in small doses has but little effect on the respiratory system, but in large doses it is a powerful respiratory depressant, producing death by paralysis of the respiratory centers and not through exhaustion. Many cases recover from the depression only finally to succumb to pneumonia.

In acute diseases of the pleura, opium is well indicated after the first twenty-four hours. Thus, in acute pleurisy, where the temperature has reached  $102^{\circ}$  or  $102\frac{1}{2}^{\circ}$  F., and where the pain and the disturbances to the nervous system are intense, opium relieves the pain and permits full respiration, besides diminishing the temperature 1 or 2 degrees. When, however, the pleurisy is chronic, with effusion and depression of vitality, opium is absolutely contraindicated.

The so-called catarrhal colds are neuroses having their origin in the disturbance of the nervous and digestive symptoms, and agents to relieve these conditions are the ones to be looked for. Dover's powder at night with a hot drink, followed by a cathartic in the morning, will frequently cut short an attack of a so-called cold. Quinine, by acting on the nervous system, stimulates it also to throw off the attack. Inflammation of the mucous membrane cannot be attributed to a mere exposure to cold, but is attributable to disturbances either of the nervous or digestive systems, or both, and opium is therefore indicated. Catarrhal laryngitis is not a mere catching of cold, but it is a pathological condition exhibiting depressed vitality and due to a disturbance of either the nervous or digestive symptoms. If opium is used here early, it may abort an attack. For this I usually prescribe the following combination with excellent result:

Dover's Powder.....	1 grn.
Calomel.....	$\frac{1}{2}$ grn.
Potassium Bromide.....	5 grn.

For one powder. One such at bedtime.

This will give a good night's rest, will relax the spasm, and render the skin more active, thereby preventing inflammation of the mucous membrane.

Acute croupous pneumonia is almost invariably accompanied by pleurisy. This fact justifies us in the use of an anodyne, but in secondary pneumonia there is neither pain nor pleurisy. It is the kind that sometimes follows typhoid fever. Physicians often fail to recognize it and it is better so, because it makes little difference and is far better left alone than treated with opium. In acute croupous pneumonia there is first a severe chill, accompanied by severe pain in the side, elevation of temperature, disturbance of nervous system, difficult breathing, and cough. Begin to use opium early. It has no direct effect on the pneumonic process, but it relieves pain and allows a full breath, where before the patient's breath was short and shallow. This kind of breathing produces a peculiar sound called the pneumonic grunt. Although a respiratory depressant, opium here by relieving pain allows better breathing. Furthermore, in this ailment the patient is kept awake by a cough, and agitation of the nervous system naturally follows. Opium not only relieves these conditions but also reduces the temperature more than antipyretics would do. Delirium is also sometimes a marked symptom. This keeps up a nervous strain and diminishes the pulse, so that by the fourth or sixth day, when the most strength

is needed, the power of resistance is often gone. Relieve these conditions with opium and the patient will thereby be offered a better chance to pass the critical point. The following is a combination I always use with satisfactory results:

Strychnine Sulphate.....	1	grn.
Apomorphine Hydrochlorate...	1/8	grn.
Ammonium Chloride.....	1	dr.
Syrup Tolu.....	} of each,	2 oz.
Mucilage Acacia.....		

One teaspoonful every hour.

Or, still better:

Strychnine Sulphate.....	1	grn.
Codeine Phosphate.....	2	grn.
Ammonium Chloride.....	1	dr.
Syrup Yerba Santa.....	1 1/2	oz.
Mucilage Acacia.....	2	oz.

One teaspoonful every hour.

For children, especially, where the fever is high, I prescribe:

Quinine Tannate.....	16	grn.
Strychnine Sulphate.....	1/8	grn.
Ammonium Chloride.....	16	grn.
Syrup Yerba Santa...	} of each,	1 oz.
Mucilage Acacia.....		

One teaspoonful every hour or two, according to the severity of the case.

Even if a specific for pneumonia should be found, still opium would have, as it now has, a place in the treatment of this disease. Keep the skin moist, allay pain, support strength, and regulate the temperature if possible without any antipyretics. If, however, the temperature reaches  $103\frac{1}{2}^{\circ}$ , then do not hesitate, but use them discreetly according to your own judgment. Some patients are more affected by a temperature of  $102^{\circ}$  than others by  $104^{\circ}$  or even higher. When cough and pain are under your control the interval may be increased, and after the fourth day smaller doses should be given, and so on, because then the conditions are different and rather require stimulants than depressants.

So much for the indications for opium in pneumonia; but with regard to bronchitis the opinion of the profession largely differs. Simple subacute bronchitis is the result of a catarrhal cold. Many eminent observers use opium during the moist stage, others start with it from the beginning, while still others do not use it at all. Cough is here the most prominent symptom. Cough, and not pain then, is the clear indication for the use of opium. If the cough is not very troublesome, do not use opium. However, if it is troublesome and prevents sleep, no matter if it is said that it throws back the secretions, use it and you will get good results. But remember, it must be given cautiously and in small doses, perhaps  $\frac{1}{8}$  of a grain of the crude drug every four or five hours. Should the cough be

only moderate in severity, lengthen the interval to six hours.

We now come to phthisis. Avoid here, if there is any possibility, the use of any form of an opiate, because it might interfere with the patient's digestion. Severe cough is often present in the first stages. This interferes with sleep and depressed vitality is the consequence. Use sedatives, as hyoscyamus, bromides or chloral, and if these fail then give opium, but always in combination with a sedative. In advanced stages softening of the tissues occurs, the secretion is increased, and the patient is unable to sleep. By giving him opium he will gain in flesh. I recall particularly one case of mine where a young minister, twenty-three years of age, had gained 25 pounds in eight months. This improvement is probably due to better rest obtained by the use of opium. These, however, are exceptional cases.

When free expectoration and severe pain are due to pleurisy or intercostal neuralgia, opium should be used for the former, while local applications will do for the latter. If these fail, try out of the long list of remedial agencies the one that, according to your judgment, would meet the requirements of the case. When the patient is in his last stages or even at the point of death, the question is often asked, "Why, doctor, don't you relieve your patient by opium, even at the risk of letting him contract the opium habit?" When comfort and sleep are obtained, the process of the disease is often, even in the most desperate cases, checked. This is a well established clinical fact, and this alone may help us to an answer. There are two conditions which urgently call for opium—night-sweats and diarrhea. Although opium usually increases the secretions from the skin and decreases all others, it checks the night-sweats of phthisis, which are due to a relaxation of the nervous system. For the night-sweats, however, try first agaricin, atropine, sulphuric acid, and zinc oxide. If these have failed, resort to opium.

(c) *Circulatory System*.—In small doses opium stimulates the heart. If the patient suffers pain and has a rapid pulse it will make the pulse normal by allaying the pain; large doses, however, depress the heart if taken in a healthy condition; but this is materially different in disease.

In organic heart disease with pain, give opium. Pain may be due to neuralgia of the heart, pericarditis or endocarditis. In chronic cases pain is not usually present. In angina pectoris, with spasm of the coronary artery, pain is excessive. Give morphine hypodermically in combination with nitro-



glycerin, which acts more quickly and adds to its effect. When dyspnea is present a very small dose of morphine hypodermically may give relief, but be very cautious in its use.

In cases of shock it has always been customary to give alcoholic stimulants, but practice has taught us that they often fail to produce reaction, because the seat of the trouble is in the central nervous system. If this be stimulated by opium and atropine, we may get a fair result. Shock, as we know, is due to a sudden and severe impression produced on the central nervous system, by a severe blow, cut, pain, etc., or even severe psychological impression, as fear. For instance, in persons rescued from a burning building the fear of being burned is sufficient to produce great shock. The symptoms of shock are paleness of the face, cold hands and feet, and total collapse. The first thought usually is to give alcohol, but it will frequently fail to relieve the patient unless you give him a hypodermic of  $\frac{1}{4}$  grn. of morphine and  $\frac{1}{100}$  grn. of atropine sulphate at once. The pulse is not always rapid, but it is irregular and weak, as in aconite poisoning, but these symptoms quickly disappear unless the conditions which caused the shock continue. In compound comminuted fractures of the femur, with hemorrhage, the cause remains and opium would not relieve the shock unless the bleeding is stopped. A severe blow to the abdomen is a concussion to the nerves and ganglia in that region, and often produces shock which may end in death. A kick in the side or a fracture of the ribs is not half so serious, because there no ganglia are injured. Opium is here indicated.

A woman during labor may lose much blood, the pulse becomes weak and weaker, hands and feet are cold. If you arrest the hemorrhage,  $\frac{1}{4}$  grn. of morphine combined with  $\frac{1}{100}$  grn. of atropine will relieve the condition, while alcohol surely would fail because it would not be absorbed by the mucous membranes of the stomach, inasmuch as they are in an anemic condition.

All acute inflammations of the circulatory system are painful, but with endocarditis this is less so than with any other serous membrane. The majority of cases, however, are painful, so that opium is indicated. Pericarditis is more painful and there is a great agitation of the nervous system. Give enough morphine, say  $\frac{1}{8}$  grn. every four hours, and you will be in a better position to meet the other requirements of the disease.

(d) *Digestive System.*—Every digestive

secretion is lessened by the administration of opium. This property of the drug, under certain pathological conditions, is a very undesirable feature; still, under others, this very objection renders it the more valuable. It will dry the tongue and the throat, affecting the large as well as the small glands. In gastralgia or ulceration it improves the gastric digestion, but it lessens the bile flow, the natural antiseptic of the body, and thereby fermentation in the gut takes place, producing colicky pains and flatulence. Furthermore, it is claimed by good authority that the pancreatic juice is also lessened and thereby the digestion of fats interfered with. Intestinal secretion is also lessened, and as a consequence of this feature the peristalsis of the bowels is greatly diminished. Therefore, in ordinary functional disturbances, do not use opium unless in conjunction with a cathartic. In the severe pain of organic disease, however, it may be used, as, for instance, in carcinoma of the stomach. This being a progressive disease, the fatal outcome of it is known beforehand. Even by surgical interference nothing is accomplished. Pain is excruciating in these malignant cases in at least 90 to 95 per cent., so opium to these unfortunate victims is a blessing. Give it to them, even at the risk of producing the morphine habit.

In gastric ulcer place your patient in bed; give him nutrient enemata, thus enforcing physiological rest to the stomach, but above all give him opium enough to relieve pain, and the patient will be in a better position to make a speedy recovery. [As is well known, in ulcer of the stomach we almost invariably have hyperchlorhydria. Riegel's recent experiments show that morphine actually increases the secretion of HCl, and in this way he explains the frequent failure of morphine to relieve the pain of gastric ulcer. In fact, morphine occasionally aggravates it. Atropine, on the other hand, does effectually diminish the secretion of gastric juice.—EDITOR.]

In gastralgia use opium only during a severe paroxysm, but, to avoid recurrence, look for the cause and if possible remove it. In heptalgia and enteralgia give opium for the relief of pain, but do not expect a cure. Nausea and vomiting often follow its use, if administered alone, but combined with atropine these undesirable features will be avoided. In the nausea, vomiting, and pain characterizing gastritis, a hypodermic injection of morphine will bring speedy relief. Diarrhea can be stopped with opium, but it is seldom desirable to do so. The drug is contraindicated in the diarrheas arising from decaying or unripe fruit or other

putrefactive changes going on in the alimentary canal. Before all, in these conditions, remove the cause by a cathartic and, should the pain still persist, give an opiate. Epidemic dysentery can be treated by opium only secondarily, not at first. Clear the alimentary canal with a cathartic, then give opium, and in forty-eight hours follow the treatment by the administration of the same cathartic to wash out decaying mucous flow or any other irritating substances.

For cholera infantum a bromide with a tonic and aromatic is far more desirable than opium. Should there be a depression of temperature, give alcoholic stimulants. Old people often have a diarrhea which causes them much anxiety. This, if checked by opium, may produce profound coma and death, which shows that the patient was a victim of renal disease and that the poisons were eliminated through the rectum instead of by the kidneys. It is a good plan to examine the urine of such patients, and if kidney trouble be found, the diarrhea should not be checked, as the poison will be dammed back in the system and will kill the patient through its accumulative effect.

Enteritis occasionally follows ulcerative processes of malignant tumors, syphilis, etc., when an enema of starch and opium should be used. This gives the alimentary tract a rest while the local effect is produced. Laudanum may be used, but the deodorized tincture is by far a better preparation.

(TO BE CONCLUDED)

### THE TREATMENT OF DYSENTERY WITH SODIUM OR MAGNESIUM SULPHATE

THE treatment of dysentery with sodium or magnesium sulphate (which treatment, we might add, is not by any means new, having been used by isolated American physicians for at least half a century) is very successful, and has recently received very strong testimony in its favor. Dr. W. J. Buchanan,<sup>1</sup> superintendent of the Central Prison in Bengal, has had under treatment 855 cases of dysentery, with only 9 deaths, which is certainly a low percentage, especially if we take into consideration that the disease occurred in the tropics. In all cases, however, the treatment was instituted immediately and carried out systematically. The sodium sulphate was administered in dram doses, dissolved in an ounce of fennel water, four, six, or eight times a day. No dose was given on the following day until the stool had been in-

spected. In most cases every trace of blood and mucus had disappeared completely in two or three days; in others, they returned on the third or fourth day, necessitating a repetition of the drug.

Dr. W. J. Cruikshank<sup>2</sup> speaks very highly of magnesium sulphate in the treatment of acute dysentery. He says it approaches as nearly to a specific as does quinine in the treatment of malaria, or mercury and potassium iodide in syphilis. It should be administered, he states, in dram doses every three hours, dissolved in 1 or 2 ounces of distilled water, to which may be added 10 drops of the dilute sulphuric or the aromatic sulphuric acid. The acid covers the bitter taste to a great extent and also prevents griping. This treatment should be continued from the very beginning of the disease until there is a subsidence of all the symptoms. The beneficial effects are shown in a very few hours and in twenty-four to forty-eight hours the patient shows marked general improvement; the pain is diminished, the tormina and tenesmus subside rapidly, temperature and pulse are lowered; if tympanites is present, it is rapidly reduced; the stools become less painful and less frequent, the blood and mucus disappearing. At the end of forty-eight hours, in the vast majority of cases, the stools assume a biliary character. The treatment now must not be interrupted, but continued until the stools have become nearly normal.

The average time required for the establishment of convalescence under this treatment is from three to six days. The treatment is the same in children, except that the doses of the Epsom salt and sulphuric acid are smaller.

The author brings testimony from numerous observers, covering hundreds of cases, which fully supports his position. He summarizes his ideas as to the nature and treatment of dysentery in the following conclusions:

(1) Dysentery is a disease of great gravity. (2) It is both contagious and infectious. (3) It is caused by the introduction into the system through food and drink, also through the air, of a specific micro-organism, the identity of which seems to be still in doubt. (4) Dysentery is one disease, in whatever latitude it may be found, and the only varieties which have any foundation in fact are those which may be based on the intensity of the morbid process. (5) The majority of the therapeutic agents which have been suggested for the treatment of acute dysentery are useless,

<sup>1</sup> *Brit. Med. Jour.*, No. 2102.

<sup>2</sup> *N. Y. Med. Jour.*, LXXIII, No. 11.

and in many cases harmful. (6) Magnesium sulphate, properly administered, in the acute form, acts as a specific.

Dr. Wm. C. Cooper<sup>3</sup> has for many decades pinned his faith to a modification of the once famous "White Liquid Physic." The formula he uses is as follows: Sodium sulphate, 2 oz.; water, 6 oz.; nitro-muriatic acid, 2 fl. dr. The dose of this is a tablespoonful in half a glass of sweetened water. The doctor says that this mixture is a positive and sure cure for sporadic dysentery, and it is generally safe to guarantee a cure in six hours. In his quaint style, the venerable doctor tells us that there is something else which this mixture will cure, besides dysentery, and that is *drug skepticism*. There is, perhaps, he says, no other medical preparation in the world that will *so* quickly and *so evidently*, demonstrate the efficacy of drug treatment. One does not have to have faith in it in order to be cured by it; it will cure one in spite of all the moral opposition he can employ. He has gradually, though, discontinued the use of the medicine, because patients nowadays demand pleasant-tasting mixtures. He therefore treats dysentery with small doses of magnesium sulphate and bismuth, and while this treatment is slower in its effects than the old mixture, it is very sure and administered much more easily.

Dr. Richard A. Mate<sup>4</sup> also offers high testimony as to the value of magnesium sulphate. He has used the treatment in South Africa for the past four years in a great number of cases and with most excellent results. This, however, can hardly be considered a fair proof of the value of magnesium sulphate, as the doctor used a number of other drugs in combination. The formula he uses is as follows: Magnesium sulphate, 1 dr.; dilute sulphuric acid, 10 min.; quinine sulphate, 1 grn.; tincture of opium, 10 min.; corrosive mercuric chloride,  $\frac{1}{32}$  grn.; peppermint water, to make  $\frac{1}{2}$  oz. This was given at one dose and repeated every three hours. Irrigation with a solution of boric acid (1 dr. to 1 pint) was also found useful, increasing the comfort of the patients to such a degree that they asked for more frequent repetition of the irrigation. Turpentine stupes relieved the tenesmus.

Curiously enough, the magnesium sulphate was not effective among the Indians, and to them he usually gave: Castor oil,  $\frac{1}{2}$  dr.; tincture opium, 20 min., followed in two hours by a dram dose of powdered ipecac; this being usually sufficient.

<sup>3</sup> *Med. Gleaner*, April, 1901.

<sup>4</sup> *Brit. Med. Jour.*, May 11, 1901.

## THE TOXICOLOGY OF TELLURIUM COMPOUNDS AND THEIR THERAPEUTIC VALUE<sup>1</sup>

By Wm. J. Gies, M.S., Ph.D., of New York

TELLURIUM is a silver-white metal, chemically nearly related to sulphur. It occurs in nature chiefly in combination with bismuth, lead, mercury, silver, and gold. The earliest biological experiments with tellurium compounds were made on man and the domestic animals, and only since 1885 have researches into the action of tellurium on plants been published. It was found that aqueous solutions of telluric acid, potassium tellurite, tellurous oxide, and other compounds exerted but little, if any, influence over the growth of algæ and infusoria. The next step was to ascertain the effect of tellurium compounds on bacteria. It was found that various bacteria flourished in the presence of these substances, the colonies showing a grayish black color due to deposit of metallic tellurium; only the bacteria were pigmented, the nutrient medium remaining entirely colorless. Thus the reduction of the chemical compound must have taken place in the bacterial cell itself, and it was justly pointed out that tellurites could be employed for determining the reducing action of bacteria. It was also noticed that the oxygen liberated during the reduction could not be utilized by aerobic bacteria in anaerobic environment.

Experiments on cold-blooded and domestic animals led to numerous interesting results. On post-mortem examination of animals poisoned with telluric compounds a peculiar garlicky odor was found to proceed from the abdominal cavity; the intestinal walls were colored black, the blood serum violet; the liver was covered with small red spots, the gall-bladder widely distended; the heart full of coagula. Later it was brought out that the garlicky odor appeared in the breath of the animal almost immediately after potassium tellurite was introduced into the stomach. Vomiting followed, and vomit and feces were black with tellurium granules. Repeated experiments revealed the fact that in its toxicological aspects tellurium closely resembles its chemical relative, selenium, being somewhat weaker in action. In warm-blooded animals  $\frac{1}{3}$  grn. of sodium tellurite and  $\frac{5}{6}$  grn. of sodium tellurate, per kilo of body-weight, produce strong toxic effects: vomiting, diarrhea, unconsciousness, paralysis, convulsions, and death. Besides resem-

<sup>1</sup> *Phil. Med. Jour.*, VII No. 12.

bling selenium, tellurium is thus similar in toxic action also to arsenic and antimony. Post-mortem examinations revealed marked changes in the intestines, such as edema, congestion, extravasation, and desquamation of the villi. The kidneys also presented destructive changes, the urine was occasionally bloody and contained tellurium. Almost all parts of the body were pigmented by metallic tellurium, which seemed to be held in solution, since no granules could be detected in the colored tissues. The garlicky odor of the breath and organs of animals to which tellurium salts had been administered is due, as proven by Hofmeister, to methyl telluride. The source of the methyl for this synthesis has not been definitely discovered, but since methyl groups are set free in the course of general metabolism, it is probable that tellurium unites with them to form methyl telluride. The elimination of the tellurium administered seems to take place chiefly through the kidneys [and the lungs].

The author has conducted a series of experiments on dogs, with the view of ascertaining the effects of continued dosage of tellurium compounds. He found that non-toxic doses of the salts, given in quantities several times as great as therapeutic doses, do not materially affect metabolism in dogs, even if administered for a week in succession. Proteid catabolism was but slightly stimulated, the urine remained unaffected beyond assuming a dark-brown color. The feces showed a slight increase of dry matter and a somewhat diminished absorption of fat.

Excessive dosage, on the other hand, was followed by marked results. Gastric digestion was retarded, the appetite flagged, and violent vomiting and somnolence ensued. Inflammation and disintegration of the gastro-intestinal mucous membrane, and intestinal hemorrhages occurred. Given subcutaneously, tellurium tartrate caused restlessness, tremor, diarrhea, paralysis, unconsciousness, respiratory failure and death in convulsions. Further, it was found by the author that tellurium compounds arrested the secretion of acid in the stomach, thus accounting for the indigestion caused. Intestinal putrefaction remained uninfluenced.

The tellurium was eliminated in metallic form in the feces; as methyl telluride through the breath, urine, feces, and skin secretions; and in solution through bile and urine. The urine assumed a brown or green color during the administration of tellurium, and contained albumin and bile pigment.

Passing to the action of tellurium salts on the human organism, it was early observed that they have a nauseating effect and cause vomiting, also that they impart a strong garlicky odor to the sweat and breath. The odor of the breath is especially persistent, to such a degree as to render seclusion often necessary. A case is on record of a student who accidentally swallowed a dose of tellurium, and for the remainder of the session had to sit apart from his fellow students. In another case the odor of the breath persisted for nearly one year. It is not even necessary to ingest the drug, since mere touching it with the fingers will diffuse the odor through the body and impart it to the breath. The same result follows the inhalation of tellurium compounds. Severe constipation is another effect, frequently together with short periods of drowsiness and nausea.

These data acquire additional interest when compared with the old observation that certain preparations of bismuth also produce a fetid breath. Accordingly, the presence of tellurium in commercial bismuth compounds was early suspected and finally demonstrated conclusively. The medicinal use of bismuth thus implies frequently the simultaneous action of tellurium. (Formerly this "bismuth breath" was supposed to be due to arsenical impurities in bismuth salts.)

The therapeutic value of tellurium compounds was first pointed out by Neusser. He observed that the night-sweats of consumptives were noticeably reduced after daily doses of  $\frac{1}{3}$  grn. to 1 grn. of potassium tellurate. In most cases  $\frac{1}{3}$  grn. sufficed, though sometimes cumulative dosage was required. Beyond mild dyspeptic symptoms, such as eructations, coated tongue, poor appetite, no toxic effects followed. The appetite seemed to increase at first; a slight narcotic action was also observed. The characteristic garlicky odor quickly appeared in the breath, even after the smallest doses. On the disease itself (phthisis) no influence was exerted in the later stages. In the earlier period, however, increase of appetite and improved nutrition was noticed after the administration of  $\frac{1}{6}$  to  $\frac{1}{3}$  grn. of potassium tellurate. The anhidrotic action appears in from fifteen minutes to one hour after the exhibition of the drug, and persists from five to seven hours. The garlicky odor continues four to eight weeks. Even in perfectly healthy persons potassium tellurate greatly hinders the secretion of sweat.

Sodium tellurate in daily doses of  $\frac{1}{3}$  to  $\frac{5}{6}$  grn. was also found to exert a marked

antidiaphoretic action in phthisis, rheumatism, dyspepsia, etc.

The minimum dose capable of producing anhidrosis is stated to be  $\frac{1}{3}$  grn.; the most effective quantity,  $\frac{5}{8}$  grn. If the result does not follow immediately after the first administration, repeated dosage with  $\frac{5}{8}$  grn. for a few days will bring it about.

Combemale and Dubiquet consider sodium tellurate the very best antihidrotic agent, preferable to camphoric acid, agaricin, atropine, etc. The chief objectionable feature of the tellurates is the alliaceous odor which they impart to the breath.

## CAUSATION AND TREATMENT OF GOUT<sup>1</sup>

By Alexander Haig, M.D.

GOUT, says Dr. Haig, is not a constitutional disease due to any defect in the functions of the body, but rather a form of diet disease due to food poisoning. This gives a clue to prevention and treatment. Gout and rheumatism, moreover, are one and the same disease, an arthritis caused by uric-acid irritation.

An ordinary diet of meat, fish, soups, coffee and tea introduces from 5 to 7 grn. of uric acid into the body daily. If all this quantity were retained, it would produce from 4 to 6 oz. of uric acid in the year. However, the whole amount is not nearly retained under ordinary circumstances; but no matter how small the retention, at the end of thirty or forty years the accumulation may become quite considerable. Besides this, the introduced uric acid interferes with the solubility and thus with excretion of the uric acid that is formed in the body, amounting to about 1 grain of acid for each 10 pounds of body-weight. The more albumen taken with the food, the more uric acid produced. Therefore, two rules should be observed: (1) To introduce into the body as little uric acid as possible; and (2) not to exceed the physiological allowance of albumen in the food.

Food-substances which contain uric acid are the muscles of animals and their viscera (liver, kidneys, etc.); then tea, coffee and cacao contain xanthins, which principles are physiologically and pathologically equivalent to uric acid. Several vegetables, like peas, beans, lentils, also contain considerable amounts of xanthins, some of these vegetables containing twice as much as meat. These are the sources of uric acid. The action of the acid may be considered under two heads: (1) Local irritation in joints and fibrous tissues (gout); (2) gen-

eral symptoms, called gout in the blood, as high blood pressure, etc.

The irritating local effects of uric acid have been demonstrated experimentally by injecting solutions of the acid into the cornea or under the skin of animals. It was also found that while urates in solution are irritating, urates deposited in the tissues are not. This fact is of great importance, since it shows us that the deposits of sodium biurate found after an attack of gout are not the cause, but the result of the attack itself, the pain and inflammation subsiding with this deposition. During a seizure of gout the blood contains uric acid or urates combined with more or less alkaline bases and held in solution or in colloid form. Now the concentration of these urates produces in fibrous tissues the local irritation and the pain of a gout attack. The fibrous tissues are selected because they are less vascular than others and less well supplied with alkaline blood, thus rendering the urates less soluble and retaining them, with the resulting local irritation. Therefore, all drugs that increase the power of the blood to hold uric acid in solution tend to remove it from joints and fibrous tissues, and diminish the irritation, and all substances which diminish this solubility have the opposite action.

Substances of the first kind are alkalies and salicylates. Heat has a similar effect, by eliminating acids in the perspiration.

The chief substances which diminish the solubility of uric acid in the blood are the acids and metals that form insoluble compounds with uric acid. Cold has naturally the reverse effect to that of heat.

Thus we see the arthritis of gout or rheumatism caused by exposure to cold and wet, by acid wines or beer, by contact with metals like mercury, lead, zinc, copper, etc.

The general symptoms of gout depend chiefly on the influence of uric acid over the capillary circulation. Under certain circumstances colloid masses of uric acid are probably thrown out in the blood and obstruct the capillaries. This obstruction, further, is the cause of heightened blood-pressure with the resulting uric-acid headache. Finally, the changes in the quantity of uric acid, together with the changes in the capillary circulation, tend to affect the quality of the blood and produce anemia.

The prophylaxis of uric-acid poisoning follows naturally from the above considerations: all substances containing large amounts of the acid should be prohibited in the diet of the young.

The treatment is also only a logical consequence of etiology, and comprises two

<sup>1</sup> *Med. Record*, LIX, No. 4.

points: (1) The introduction of the poisons must be limited as much as possible; (2) the elimination of the poisons should be encouraged. The diet must include only the necessary quantity of albumens, and all sources of uric acid should be borne in mind in regulating it. A proper diet will limit the indications for drugs to a few special cases. If acute arthritis supervene, the salicylates given *alone*, and not on any account with alkalies, are the best remedy and should be administered in liberal quantities. If given with alkalies, the salicylates may even do harm, and in hot climates or hot weather they are of little value, unless the patient is kept cool, because the perspiration by increasing the alkalinity of the blood frustrates their action. On the other hand, in arthritis with high fever the salicylates act much better, for fever means more rapid metabolism, with the resulting increased acidity of urine and diminished alkalinity of blood, both being conditions which favor the solvent action of salicylates.

Moreover, while giving salicylates it is not advisable to prohibit wine and meat, for we want to diminish the alkalinity of the blood. After the salicylates have done their work, it is time to reform the diet. We should bear in mind that fever and high acidity of the urine favor the action of the salicylates; while subnormal temperature, perspiration and alkaline urine have the reverse effect.

For clearing the blood of uric acid the iodides are very effective and may be assisted by the chlorides of sodium and ammonium and bromide of ammonium.

## THE MODERN TREATMENT OF EPILEPSY<sup>1</sup>

By L. Pierce Clark, M.D.

THIS may be surgical and medical. The importance of medical treatment before and after the operative interference is emphasized by Dr. L. Pierce Clark. Regarding the treatment by trephining itself, the author thinks there is need of more conservatism if we are to improve the prognosis of the operation. At present the percentage of success in traumatic epilepsy is as low as 4 per cent. Idiopathic epileptics with seizures having a definite form of onset ought to be exempt from surgical treatment. Many supposed cures by trephining relapse later on. Finally a large percentage of cases operated upon are made decidedly worse instead of being benefited. All this should be considered in each case before an operation is advised.

Passing over to medical treatment, we

must not expect to find a remedy in some one drug or measure. The entire regimen of the patient's life must be carefully arranged according to the various hygienic requirements. Diet, rest, exercise, education, occupation—all these are equally important, and when combined with a judicious medicinal treatment may be expected to bring about an amelioration. Of the remedial agents, the bromides continue to occupy the leading place. The action of the bromides is to be assisted by tonics and nutrients, as cod-liver oil, iron, manganese, etc. The author gives the sodium, potassium and ammonium salt, 5 grn. of each to a teaspoonful of simple elixir. The patient begins with 1 dr. (15 grn. of bromides) daily, and gradually increases the amount until the seizures cease or 1 oz. daily of the salts is taken. The bromides must be given in sufficient quantities to stop the attacks. To prevent intoxication, baths, massage, and cold showers with friction, are recommended. The bowels are to be regulated, the mouth kept clean, and internal antiseptics administered if necessary. If acne breaks out, cloths wrung out of hot water should be applied to the face, together with ointments of zinc or sulphur. The author has little faith in Fowler's solution as a preventive of bromism.

In chronic and obstinate bromism, temporary reduction or withdrawal of the bromides may be required. Having stopped the seizures, the dosage reached must be maintained as long as is possible without intoxication, the longer the better. No greater error can be made than by discontinuing treatment after the first good effects.

Recently, in cases which did not tolerate high doses of bromides the author has employed bromipin with excellent results. Bromine given in the form of bromipin is nutritive and sedative, less irritating and less toxic, and at the same time more lasting in effects. [For the information of those who are not yet familiar with the product, we would say that bromipin is chemically an *addition* product of bromine and sesame oil. It contains 10 per cent. by weight of elementary bromine, and so completely are the irritating effects of bromine eliminated, that tablespoonful doses of bromipin (containing 24 grn. of pure bromine, a dose which otherwise would produce the most disastrous toxic effects) can be taken without the least irritation to the gastric mucosa. It is to be borne in mind that bromipin is not an emulsion; an emulsion of bromine with a fixed oil is merely a mechanical mixture and the irritating proper-

<sup>1</sup> *Med. Record*, LIX, No. 2.

ties of the bromine are not eliminated in it. —Ed.]

Another great adjuvant to the bromides has been discovered during the past few years, and is known as hypochlorization or salt starvation. A year ago this method was recommended by Toulouse, and favorable reports followed its use. The rationale lies in the fact that bromine can substitute chlorine in the tissues. Experiments on animals taking bromine have shown that more bromine than chlorine could be procured from their tissues. In the gastric juice hydrochloric acid may be substituted by hydrobromic acid. When, therefore, an epileptic is on salt starvation, the bromides will be better absorbed in the tissues. Now, epileptics are usually very fond of salt, so that complete deprivation of it is very hard to reach and semi-starvation of salt is sufficient to strive after. For this purpose a milk diet, with occasional change to a mild salt diet, is the best method. In fact, the value of a mild diet in epilepsy has long been established empirically. The author has arranged a dietary for his patients consisting of milk, soft-boiled eggs, farina, rice, potatoes, unsalted soups and beef, sugar, coffee, and 20 to 30 grn. of table salt daily. By this method the amount of bromides can be reduced one-half and the chances of intoxication also lessened one-half.

To recapitulate: The modern medical treatment of epilepsy relies on the bromides combined with diet, regular occupation, hygienic measures, hot and cold baths, massage, and alimentary antiseptics. Bromine in the form of bromopin is an excellent substitute for the bromides, and salt-starvation, as a great aid to the bromide treatment, deserves a full trial.

## THE TREATMENT OF ECZEMA, ACNE, AND OTHER AFFECTIONS<sup>1</sup>

By Alexander Brownlie, M.D., Edin.

IN the opinion of the author, ichthyol, whether administered internally or applied externally, is one of the most efficient agents for treating *eczema* in all its stages. For the acutely inflamed forms, a 2- to 5-per-cent. ointment of ichthyol does best, while for the dry and more chronic conditions 5- to 10-per-cent. applications are necessary. From the numerous cases of *eczema* that the author successfully treated with this drug, he gives the detailed histories of three.

<sup>1</sup> *Lancet*, No. 4030, p. 1491.

Case I was a man of thirty-three, of a strenuous constitution; had suffered with *eczema* for two years before coming to the author's notice. His face and neck were acutely *eczematous*, weeping, painful, and itching. On the flexor surface of the arms and thighs there was a drier form. His tongue was furred, and he suffered with constipation and anorexia. Nux vomica, arsenic, and chirata were ordered internally, while externally the following ointment was found very beneficial:

Bismuth Subnitrate.....	2 dr.
Zinc Oxide.....	1 dr.
Ichthyol.....	30 min.
Vaselin.....	to make 2 oz.

For the arms and legs, where the *eczema* was of the dry variety, an application of a 20-per-cent. solution of ichthyol in water was ordered and this relieved the itching better than anything previously tried; at night trional in 15-grn. doses was given. Later on ichthyol was also given internally —2½ grn. in pill form three times a day after meals. There was a distinct improvement from the start; in six weeks there was no more exudation, and there were no more papules on the face. For washing his face, the patient used a 10-per-cent. ichthyol soap. Later on the ointment was changed to a simple 4-per-cent. ichthyol-wool-fat salve. Gradually the legs and arms healed, and any slight recurrences he had during the following two years were quickly subdued by a 5-per-cent. ichthyol ointment. For the past three years he has had no more attacks.

Case II was one of *eczema* of the leg. Ichthyol was given internally in 5-grain doses, while externally the following ointment was applied:

Ichthyol.....	30 min.
Bismuth Subnitrate..	} of each, 2 dr.
Starch.....	
Zinc Oxide.....	1 dr.
Petrolatum.....	to make 2 oz.

In a week great improvement was manifested; there was no pain, no weeping, the part became dry and scaly. A 10-per-cent. aqueous solution of ichthyol was then applied, a perfect cure resulting in two weeks.

Case III was an extremely aggravated case of *eczema* in a man sixty-eight years of age, with a slight tendency to gout. There was *eczema* of the right leg, which from the knee to the toes was swollen to twice its natural size, red, inflamed, weeping, covered with crusts and pitting on pressure. Five-grain ichthyol pills were given three times a day, and a mixture of strychnine and digitalis for the circulation. Locally the following ointment was applied twice a day:

Bismuth Subnitrate.....	3 dr.
Ichthyol.....	24 min.
Oint. Zinc Oxide.....	to make 2 oz.

In five weeks the swelling was almost gone and the leg was in a dry and scaly condition. The following ointment was then applied:

Ichthyol.....	1 dr.
Ammoniated Mercury.....	10 grn.
Resorcin.....	20 grn.
Vaselin.....	1 oz.
Wool-fat.....	to make 2 oz.

In another two weeks the leg was perfectly well. This was a bad case, which had already been under treatment for six months. While the rest was helpful, the author thinks that the relief afforded by the action of ichthyol on the dilated vessels was the direct means of cure.

Case IV. was a woman of sixty, who had for

years suffered with recurrent attacks of eczema. Knees and wrists were scaly, red, and itchy; the lower part of the abdomen and vulva, and the upper parts of the thigh were red and painful, exuding a copious serous discharge. The abdomen being very painful, a dusting powder of starch, bismuth, and a little boric acid was applied at first. Ichtholbin in 15-grn. doses three times a day was administered, in cachets. In a few days there was much less pain and exudation. A 3-per-cent. ichthol ointment was then applied, and it answered admirably; the itching was relieved, and the skin soon assumed a normal appearance. On the legs and arms the following ointment was used twice daily:

Resorcin.....	10 grn.
Ammoniated Mercury.....	10 grn.
Ichthol.....	1 dr.
Zinc Oxide.....	2 dr.
Vaseline.....	6 dr.
Wool-fat.....to make	2 oz.

An improvement was manifest from the first, and recovery followed in six weeks.

Regarding *acne*, the author says that ichthol is particularly beneficial in this disease, both in *acne vulgaris* and *acne rosacea*. In the former strong external applications can be borne, but in the latter much weaker strengths must be used. The best results are obtained when external and internal treatment are combined, and in some cases of *acne rosacea* in which the skin is too thin and irritable to bear even weak solutions the internal administration of ichthol alone with steaming will suffice to effect a cure. The author's general plan of treatment is to begin with 5 grn. of ichthol thrice daily after meals, increasing to 10 grn. Every night and morning the face is steamed for fifteen minutes and then washed with ichthol soap made into a lather and allowed to dry on, which is then gently washed off with water. After each washing, if it can be borne, ichthol salve (often combined with ammoniated mercury) is applied. In *acne vulgaris*, after steaming, strong sulphur and ichthol soap are used, with brisk rubbing by means of a flesh-glove. The diet is regulated. Ichthol itself generally relieves mild cases of constipation, but if it does not the author gives a compound pill of iridin and euonymin or podophyllin. Two severe cases are given in illustration of the successful issue of the treatment as above outlined.

The author further speaks of his excellent results with ichthol in other affections, especially *endometritis*. For the cure of the latter condition he employs, nightly, applications of glycerin-ichthol tampons in the proportion of 2 dr. of ichthol to 1 oz. of glycerin.

The author's conclusions are as follows: "My experience has been that from 2-per-cent. to 5-per-cent. ichthol applications are best in acute forms of inflamed skins and

from 5-per-cent. to 10-per-cent. strengths in more chronic, drier conditions. In *acne vulgaris* anything up to 25-per-cent.—namely, between 10-per-cent. and 25-per-cent.—is useful. In all cases the internal administration of the drug is an assistance. I believe that ichthol taken internally has a direct influence on the skin and is most probably excreted by it. Moreover, the taking of ichthol internally increases weight, and this applied more particularly to weakly strumous children. The one disappointment which I must record is that itching is not relieved as quickly as one might expect. Patients express gratitude for the feeling of comfort experienced, but the itching soon returns. The itchiness does indeed disappear after a time, but it is always the last symptom to go."

#### THE ABORTION OF WHOOPING-COUGH

Dr. W. L. Coleman claims to be able to abort pertussis when the treatment is commenced early enough; that is, within the first few days after the catarrhal cough begins, and before the whoop is established. It is still better if treatment is commenced in the incubative stages, as early as possible after known exposure to contagion. The most important indications are: first, the early and complete saturation of the patient's system with calcium sulphide, which is known by the odor of sulphuretted hydrogen exhaled from the pores of the skin and the respiratory passages. This agent can be given boldly and without fear (the author has never seen or heard of any ill-effects produced by it) every half-hour, hour, or two hours, according to the stage and urgency of the case, in doses of from  $\frac{1}{6}$  to  $\frac{1}{2}$  grn., till saturation, which should be maintained several days or till the disease is conquered. Second, the production of a gentle, barely perceptible but continuous physiologic effect of belladonna, which can be done by giving atropine sulphate in minute doses,  $\frac{1}{3000}$  to  $\frac{1}{500}$  grn., according to the age of the child, and repeating often enough to secure and maintain this effect. It is hardly necessary to say that this physiologic effect of belladonna is manifested by a barely perceptible flush on the cheeks and a slight dryness of the throat. If this treatment is instituted early enough to secure saturation before the catarrhal stage ends, it unfailingly cuts short the disease and prevents the supervention of the paroxysmal or whooping stage. If fever is present in the catarrhal stage, the treatment should also include some mild antipyretics.

<sup>1</sup> *Alkaloidal Clinic*, VII, No. 12.



# Progress in Materia Medica and Drug Therapy

## APOCYNUM CANNABINUM IN CIRRHOSIS OF THE LIVER

Dr. F. J. Bowles<sup>1</sup> reports a case of liver cirrhosis which improved remarkably under the administration of apocynum cannabinum (Canadian hemp), 5 drops of the fluid extract thrice daily. The patient ascribes the amelioration of his condition to this medication. Whenever he interrupts it for a few days edema reappears at the ankles. The author abstains from any comments, as he does not wish to draw conclusions from a single case.

## MALARIAL HEMATURIA

Dr. J. W. Leonard<sup>2</sup> outlines the following treatment for this condition: Give 5 to 8 grn. of acetanilid to ease pain and fever, then 15 to 20 grn. of mild mercurous chloride and 3 to 5 grn. of colocynth, in four doses, one every two hours, followed by castor oil.

Conjointly with the above, give the following mixture for the kidneys:

Fld. Ext. Buchu.....	4 dr.
Fld. Ext. Ergot.....	1 oz.
Spirit Nitrous Ether.....	1 dr.
Alcohol.....	to make 2 oz.

Teaspoonful in plenty of water, every two or three hours, as urgency of case may require.

Second day, after bowels have acted well, the author usually gives 30 grn. of quinine, in acid solution, between doses of kidney medicine.

Third day, a medium course of calomel and soda, keeping up the kidney medicine, if necessary.

Finish off with acid tonic:

Quinine Sulphate.....	1 dr.
Nitrohydrochloric Acid.....	3 dr.
Tinct. Ferric Chloride.....	4 dr.
Stry. haine Sulphate.....	1 grn.
Spirit Nitrous Ether.....	6 dr.
Water.....	to make 4 oz.

Teaspoonful in water before each meal, three times a day.

In desperate cases, the author induces salivation just as quickly as possible, and he uses quinine in nearly every case without any bad effect.

## THE DOSE OF MORPHINE IN THE AGED

Dr. Tauszk<sup>3</sup> calls attention to the fact that great caution is necessary in giving opiates to old people. He noticed that doses of  $\frac{1}{12}$  to  $\frac{1}{6}$  grn. of morphine frequently called forth symptoms of intoxication, such

as nausea, difficult breathing, contraction of the pupils, headache, paleness of the face, and difficult micturition. According to the author, old people, especially those with arteriosclerosis, have a special intolerance towards morphine. When giving opiates to old people for the first time, the dose of morphine should be  $\frac{1}{20}$  grn., and of opium  $\frac{1}{12}$  to  $\frac{1}{6}$  grn. Hypodermically, morphine should be given to the aged only after we are sure that they have no intolerance for the drug.

## THE TREATMENT OF PELVIC PERITONITIS

Dr. C. H. Strat<sup>1</sup> found that conservative treatment of this affection produced better results than the surgical. In 1,000 patients with diseases of the adnexa he performed laparotomy in 20 only. This operation is valuable in tubercular and puerperal affections, but less so in gonorrheal diseases. Of the different methods of treatment tried in pelvic peritonitis, gynecological massage alone was successful in but a few cases; in combination with other measures it did much more good in the absorption of hematoma and chronic inflammatory products.

Ichthyol always gave good results, whether applied externally to the abdomen or by tampons and injections to the vagina and uterus.

The best results were obtained from systematic hot-water (48-50° C.) injections into the vagina, after which a tampon soaked in iodine-glycerin was inserted. This method worked well, especially in puerperal and gonorrheal diseases of the adnexa and recent acute pelvic peritonitis. The fever disappeared in all cases after four to five days.

## QUINIC ACID, A NEW REMEDY IN GOUT

Dr. Hugo Sternfeld<sup>2</sup> recommends this drug as perfectly innocuous and worthy of a practical trial. The constitutional anomaly of gout is the presence of an excess of uric acid in the system, with its local inflammations and other complications. Thus a rational treatment has for its direct object either the elimination of this excess or the prevention of the excessive formation of uric acid. The removal of the surplus of uric acid is generally attempted by stimulating diuresis with alkaline solutions; quinic acid, on the other hand, tends to check the

<sup>1</sup> *Therap. Gaz.*, xxv, No. 2.

<sup>2</sup> *Med. World.*, April, 1901.

<sup>3</sup> *Pract.*, xxii, No. 8.

<sup>1</sup> *Centralbl. f. d. gesamt. Therap.*, xviii, No. 12.

<sup>2</sup> *Munch. med. Woch.*, xlvi, No. 7.

formation of uric acid in the body, as shown experimentally by Weiss, of Basel. These experiments were based on the empirical fact that cherries, strawberries and other fruits decrease the elimination of uric acid. Now, this result does not depend on the alkalies contained in the fruit, but is rather due to the presence in them of quinic acid.

Quinic acid is changed in the body into benzoic acid, which latter in its turn is converted into hippuric acid. The last-named acid is nearly related to uric acid, but is much more soluble in water, and must, therefore, if combined with a diuretic, lead to increased excretion of uric acid. [This is a *non-sequitur*.] Proceeding on these lines, Weiss devised a combination of quinic acid with lithium, lithium quinate (put up under the name of "urosin" in tablets of  $7\frac{1}{2}$  grn.). This preparation the author has employed with invariable success. He gave up to ten tablets during attacks of gout and saw considerable amelioration of all symptoms and shortening of the attack itself. After the seizure six tablets daily should be taken for some weeks. The administration in tablets is the most suitable, as the acid affects the teeth. The only objection to the remedy is its rather high price. Otherwise it satisfies the two theoretical requisites, by limiting the production of uric acid (due to the quinic acid) and increasing the elimination of the uric acid found (due to the diuretic action of the lithium).

The author agrees with Weiss, who considers lithium quinate as much a specific remedy in the uric-acid diathesis as quinine is a specific in malaria, and the salicylates in rheumatism.

#### TANNALBIN IN THE INTESTINAL DISORDERS OF INFANCY

Dr. M. K. Preiss<sup>1</sup> has employed tannalbin and other drugs in intestinal diseases of infants at the Children's Home in Moscow. The cases treated were as follows: Forty-three patients with intestinal dyspepsia, 45 with acute catarrh of the small intestine, 20 with acute catarrh of the large bowel, 15 with chronic catarrh of the small intestine, 10 with cholera infantum, 8 with intestinal tuberculosis and 7 with septicemia. To infants of one month he gave  $\frac{1}{2}$  to 1 grn. three or four times a day, to infants of two months  $1\frac{1}{2}$  grn., and to those of three months 3 grn. at one dose. Larger doses were not given. The remedy proved ineffectual in dyspepsia accompanied by gastric disturbances or complicated by some other disease. Excellent results were ob-

tained from tannalbin in simple intestinal dyspepsia. In all of the fifteen cases of acute catarrh of the small bowel, tannalbin, given after a laxative and combined with small doses of calomel, proved beneficial. In catarrh of the large intestines tannalbin was without effect. In the five cases of chronic catarrh of the small intestine tannalbin gave positive results. In cholera infantum the remedy did good when combined with calomel. In tubercular diarrhea tannalbin proved successful in all cases; in sepsis it failed. [Tannalbin is exsiccated tannin albuminate; a tasteless powder, without action in or on the stomach, but manifesting its astringent action only on reaching the intestines.—ED.]

#### SALOPHEN IN AFTER-PAINS

Dr. Audebert<sup>1</sup> recommends salophen for the treatment of after-pains. The remedy has the property of abolishing the pain without interfering with the contractions of the uterus. He prescribes a dose of 15 grn., which he repeats in two hours if necessary. As a rule the pains disappear in a half hour after the first dose. It occasionally happens that the pains reappear on the next day, but then another dose drives them away completely and permanently.

#### ADVANCES IN DERMATOLOGY

The following short extracts are taken from an address by Prof. L. Duncan Bulkley,<sup>2</sup> entitled: "Recent Advances in Dermatology, Which are of Service to the General Practitioner":

*Newer Remedies.*—In looking over my address of four years ago I find a number of the newer remedies there mentioned which have well stood the test of time since that date, and some which are there mentioned more or less favorably which I do not now advocate. I will not consume time in going over all these again, but may make a few remarks about some which seem appropriate.

Resorcin and ichthyol have more than held their own, and all that was said of them still holds good, and more could be added if desirable. . . . Alumol, betanaphthol, aristol, and eufophen hold their own, and menthol is often of great value in controlling itching. Peroxide of hydrogen is used with increasing confidence in connection with many ulcerative conditions of the skin, and is also of value in chloasma, and to bleach superfluous hair on the face or elsewhere, and appears to have a meas-

<sup>1</sup> *Pract.*, XXII, No. 7.

<sup>2</sup> *Arch. méd. de Toulouse*, Feb. 1, 1901.

<sup>3</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 13.

ure of effect in destroying the life of the latter. Camphor-chloral and campho-phenique are still regarded as valuable antipruritics, and lanolin, vaselin, cosmolin, albolene, etc., are in constant use. The various dusting powders made from stearates have their uses under certain conditions and are still regarded as valuable. The effort to produce adherent dressings to the skin has not been as successful as was hoped, and the results from plasters, gelatin dressings, etc., are not always as satisfactory as could be desired, although some of the prepared and medicated plasters serve an excellent purpose in certain chronic and hard conditions of the skin. Finally, medicated soaps, which were there alluded to, are slowly assuming their proper place in dermatology, which will never be a very large one; under suitable conditions they are of service, but in inexperienced hands there is more danger from their injudicious use than is commonly appreciated.

**Local Therapy in Eczema.**—Very much has been written of late years in regard to the local treatment of eczema, and even to briefly enumerate the various remedies and measures which have been proposed would more than consume the time allotted to this address. Undoubtedly for the different stages and phases of this protean eruption very varied treatment may at times be required, but it seems suitable to utter a word of caution against the too ready acceptance of much that is prescribed.

Lassar's paste (zinc oxide, 2 dr.; powd. starch, 2 dr.; vaselin, 1 oz.), to which may be added camphor, salicylic acid or resorcin, 2 to 4 per cent., or even more, is certainly a very valuable addition to our means of combating subacute eczema.

The various gelatin-glycerin preparations, applied so as to form a firm, adherent coating on the part, are still extolled by many, but the present writer has not of late made great use of them. The following is one of the latest formulas, which should be of service in certain conditions:

Gum Tragacanth.....	2½ dr.
Gelatin (Best).....	2 dr.
Glycerin.....	6 dr.
Thymol.....	¼ grn.
Distilled Water—a sufficient quantity.	

Soak the tragacanth and the gelatin each in 10 oz. of water over a steam bath for twenty-four hours, strain through muslin, and make the final quantity up to 12 oz. with water. Ichthyol, resorcin, salicylic acid, and nearly every remedy used in dermatologic practice can be incorporated with this. It is applied like an ointment, or spread on with a brush lightly, and on drying gives a plastic, protective film.

Picric acid has been much praised of late, used in a saturated solution, pure or somewhat diluted, painted over acute and subacute eczema. It causes great smarting at first, which ceases, however, in ten or fifteen minutes, giving place to a sense of relief.

Potassium permanganate in a 2 or 3 per cent. aqueous solution, painted over the parts and allowed to dry on, is also a valuable antipruritic, as pointed out by the present writer some years ago.

#### POTASSIUM PERMANGANATE IN LUPUS

The application of potassium permanganate to the treatment of lupus, recommended about one year ago by Katschenovsky, has been tried by Belomsoff.<sup>1</sup> The result was very encouraging. Several applications of the remedy preceded by a 10-per-cent. cocaine solution, sufficed to destroy the diseased tissues, leaving a clean ulcer, which healed under a dressing of iodoform gauze.

#### SODIUM SALICYLATE IN DIABETES

Dr. R. T. Williamson<sup>2</sup> says that it is difficult to form an estimate of the true value of any drug in reducing the sugar in diabetes, because as a rule there is, in conjunction with the medicinal treatment, also restriction in diet, better attention to hygiene, etc. He has kept careful records, however, of his last twenty cases and has become convinced of the value of sodium salicylate in mild or medium cases of diabetes. One case he had under observation for twelve months, analyzing the urine frequently; the patient was kept under the same diet and the sodium salicylate was given intermittently. In this case the drug had a definite influence in greatly diminishing the sugar excretion. The other conditions, diet, etc., being kept the same, when the drug was given in large doses (75 to 80 grn. daily) the sugar excretion greatly diminished; when the drug was discontinued the sugar excretion at once greatly increased; when the drug was again given, the sugar excretion greatly diminished or disappeared entirely.

In another case, for instance, the specific gravity of urine 1.033; sugar, 29 grn. to the ounce. No treatment previously. Diet was restricted (potatoes, rice, and food containing sugar forbidden, but bread allowed) and sodium salicylate given. The sugar steadily diminished, and in seven weeks had entirely disappeared. The restricted diet has been continued. During the last ten

<sup>1</sup> *Rev. de Thérap.*, LXVII, No. 24.

<sup>2</sup> *Brit. Med. Jour.*, No. 2100.

months the urine has been examined every week. Seven months ago the sodium salicylate was discontinued. On three occasions a trace of sugar returned, but disappeared when sodium salicylate was given.

The author commences with 10 grn. three times daily, increasing to 15 grn. four or five times daily. He prefers the natural preparation made from oil of wintergreen to the synthetic product.

In conclusion, the author is careful to say that he does not regard sodium salicylate as a specific in diabetes, nor is it even suitable in all cases. But in certain mild cases of diabetes or persistent glycosuria, it has an undoubted effect in diminishing the excretion of sugar.

#### **TROPACOCAINE HYDROCHLORATE IN OPHTHALMOLOGY**

At a meeting of the Ophthalmological Society of St. Petersburg, Dr. Annin<sup>1</sup> read a report on the action of tropacocaine hydrochlorate, which he had subjected to a most thorough investigation at the suggestion of Prof. Belliarminoff. The tests were made with 3- and 5-per-cent. solutions, the vehicle being either plain water, or a normal physiological salt solution. His conclusions are as follows: (1) The dropping of the solution into the eye causes some burning and lacrimation. (2) The anesthesia of the cornea and conjunctiva is complete and supervenes rapidly—in one minute after dropping the solution—but does not last very long; from 3 drops of a 3-per-cent. solution complete anesthesia lasts two to four minutes, and is followed by an incomplete anesthesia of two to three minutes' duration; from 3 drops of the 5-per-cent. solution complete anesthesia lasts three to four minutes, and is followed by an incomplete anesthesia of two to five minutes' duration. (3) Tropacocaine has no effects on the pupil and practically none on accommodation. (4) It has apparently no effect on the intraocular pressure. (5) The diffusion into the anterior chamber is increased considerably, resembling in this respect the effect of eucaine. Especially is this the case when the solution is made with plain water. (6) The corneal epithelium is softened, but the deeper layers of the cornea are not affected. (7) The toxicity of tropacocaine is 2½ times less than that of cocaine. (8) Tropacocaine does not become changed on boiling; its solution can therefore be easily sterilized. In all his tests the author employed the tropacocaine prepared by Merck.

<sup>1</sup> *Vratch*, XXII, No. 11, p. 346.

#### **CAUSTIC POTASH IN EXTERNAL CANCER**

Dr. M. B. Hutchins,<sup>1</sup> considers potassa the best caustic in the treatment of external cancers. Arsenic paste must remain in contact with the diseased tissue from ten to twenty-four hours, and is painful all the time; on a large surface there is danger of absorption, and it is also unsafe near the eye or mouth. Acid caustics and zinc chloride coagulate the tissues and the blood, the pain with most of them is intense, the eschar formed is tough, and the scar is likely to be contracted, hard, and rigid. Caustic potash, on the other hand, applied in the stick form, acts rapidly; the pain, while severe, is usually entirely gone in a few minutes, and does not return, as is the case with nitric acid or the acid nitrate of mercury, for instance. In order to protect the surrounding tissues from the effects of the caustic, the author uses acetic acid, which neutralizes the potash, forming the harmless potassium acetate. In using the caustic in the corner of the eye, even between the eyeball and inner wall of the orbit, the author has always been able to prevent injury to the eye by the timely use of acetic acid.

#### **ADRENALIN AS AN ANTIDOTE IN OPIUM POISONING AND AS A CIRCULATORY STIMULANT**

Dr. Edward T. Reichert,<sup>2</sup> professor of physiology in the University of Pennsylvania, has performed a number of experiments on dogs with adrenalin, the active principle of the suprarenal gland. He states that the positive and prompt action of adrenalin upon the respiratory movements, heart, arterial pressure, general metabolism, and body-temperature justify the belief that this substance will be found of value in opium and morphine poisoning, in failure of the circulation, in the prevention of collapse in anesthesia, and in allied conditions. He believes that on account of its powerful vasoconstricting effects, its subcutaneous injection will be followed by the formation of abscesses. If administered by mouth to persons who have taken opium or morphine, it should be dissolved in alcohol to facilitate absorption.

#### **BISMUTOSE**

An organic preparation of bismuth, containing about 22 per cent. of bismuth and 66 per cent. of albumin; a white, odorless, tasteless powder, becoming gray on exposure to light. Insoluble in water. Dose: ½ teaspoonful to 1 tablespoonful.

<sup>1</sup> *Atlanta Jour. Record of Med.*, III, No. 2.

<sup>2</sup> *Univ. of Penn. Med. Bull.*, April, 1901.

**FURTHER REPORTS ON YOHIMBIN**

Prof. N. P. Kravkoff,<sup>1</sup> of St. Petersburg, has made a thorough investigation of the recently lauded preparation, yohimbin, both as to its physiological and therapeutic effects. His experiments, conducted with painstaking care, were made on pigeons, rabbits, dogs and men. All tests showed that while the drug possessed decided toxic effects, it had no aphrodisiac action whatsoever, neither on men nor on the animals. It is true that in the animals the drug caused swelling and congestion of the sexual organs, but there were no complete erections, and there is a great difference, the author states, between a congestion of the organ and an erection. The sexual desire was in no case increased, but rather diminished. The congestion of the sexual organs is not due to any specific action of the yohimbin, but to its general vaso-dilation effect. For instance, if given to roosters, the combs are seen to become congested and reddened very rapidly. The drug has a very powerful effect in reducing the body temperature, much stronger than the salicylates, antipyrine, etc. The human subjects on whom the author tried the effect of the yohimbin were six physicians; some of those suffered with relative impotence due to neurasthenia; the others were perfectly well. The yohimbin was taken in the usual doses—namely,  $\frac{1}{12}$  grn., either in the form of a solution or in the form of tablets prepared directly by the firm of Güstrow. Not only were the results absolutely negative in each case as far as any aphrodisiac action was concerned, but the by-effects—namely, nausea, salivation, clouded mind, irritability, congestion of the conjunctivæ, syncope, etc.—were so strong that the tests could not be continued for more than two to four days. The author says that if Mendel's patients were benefited by the yohimbin, it must have been the result of psychic action.

**TINEA VERSICOLOR**

Dr. N. E. Aronstamm<sup>2</sup> recommends the following ointment for tinea versicolor:

Ichthyol.....	1 dr.
Sodium Hyposulphite.....	25 grn.
Wool-fat.....	to make 1 oz.

Apply twice daily.

Besides, he recommends the restriction of carbohydrates and an abundance of albuminous foods, general tonics—such as the elixir of iron, quinine and strychnine—outdoor exercise, and frequent baths, to which about an ounce of sulphur may be

added. Constipation is best treated with cascara sagrada. Other good applications are chrysarobin, sulphurous acid, sodium hyposulphite, beta-naphthol, resorcin, carbolic acid, chloral hydrate, and last, but not least, copper oleate. The last, either diluted with oleic acid or incorporated with simple cerate, in the strength of 10 to 20 per cent., is especially advocated by Prof. Shoemaker.

**SIDONAL IN GOUT**

Urosin, which is referred to on page 233, is a combination of quinic acid and lithium; sidonal is a combination of the same acid with piperazin. Dr. Salfeld<sup>1</sup> has tried it with good effect on five gouty patients. He thinks that it is a good remedy not only in the gouty diathesis, but also in the acute attacks of gout. The drug is best administered in powdered form in doses of 15 grn. five or six times a day. No disagreeable after-effects of any kind followed its administration.

**METHYLENE BLUE (MEDIcINAL) IN MALARIA**

Dr. A. Ivanoff<sup>2</sup> (Moscow University thesis) states that methylene blue is as much a specific in malaria as quinine, though the action of the latter is more rapid. The disagreeable by-effects of methylene blue may be easily obviated by prescribing it in capsules in conjunction with nutmeg, cinnamon, magnesia, etc. The methylene blue acts especially well on the nervous phenomena accompanying the malarial attack. The medium daily quantity of the drug is 15 grn. given in three divided doses. The author has noticed that those attacks which are treated unsuccessfully with quinine yield the more readily to methylene blue, and *vice versa*; but the most effective treatment consists in a combination of methylene blue and quinine.

**ABSORPTION BY THE UNBROKEN SKIN**

After reviewing the literature of the subject, Dr. Goundaroff<sup>3</sup> communicates his personal researches. He experimented on man and animals with ointments containing alcohol, ether, salicylic acid, cocaine, aconitine, etc. The degree of absorption was measured by the quantity of the substance in question found in the urine. The author came to these conclusions: (1) With the exception of amorphous aconitine and salicylic acid, the substances mentioned

<sup>1</sup> *Vratch*, XXII, Nos. 11 and 12.

<sup>2</sup> *Med. Standard*, XXIV, No. 4.

<sup>1</sup> *Munch. med. Woch.*, XLVIII, No. 16.

<sup>2</sup> *Vratch*, XXII, No. 15.

<sup>3</sup> *Rev. de Thérap.*, LXVIII, No. 2.

above are not absorbed by the unbroken skin, either in man or in the dog. (2) Not the slightest importance can be attributed to friction as an aid or stimulus to absorption. Aconitine and salicylic acid were absorbed without any mechanical action. (3) Volatile substances, when absorbed, probably owe this to their action on the epidermis, the superficial layers of which they destroy after some time.

#### THERAPEUTICS OF RESALDOL

Resaldol is chemically a condensation product of saloform with resorcin. It appears as a yellowish-brown powder, insoluble in water or acids, soluble in alkalies, and having an astringent taste. It acts in the intestines as a tonic and antiseptic. Experiments seem to have shown that it has some value in diarrhea of a tubercular nature, in adults and children. In other forms of diarrhea the effects were less satisfactory, and in typhoid fever altogether negative.

Dr. T. Brochowski<sup>1</sup> tried resaldol in 22 cases, embracing 12 cases of tubercular enteritis, 4 of acute gastroenteritis, 3 of catarrhal dysentery, and 3 of typhoid ulcers. The drug in doses of 48 grn. to 1 dr. daily was administered for two to three days in these cases, which had resisted all other antidiarrheal remedies like xeroform, opium, bismuth, etc. In all cases, with the single exception of that of typhoid fever, the results were favorable, and the author warmly recommends the drug to the profession.

#### UREA IN TUBERCULOSIS

During the last nineteen months Dr. Henry Harper<sup>2</sup> has employed pure urea in the treatment of tuberculosis. He administered it internally and subcutaneously, and found it to be superior to all our other remedies in the various forms of tuberculosis.

The author's treatment was suggested by numerous facts tending to show that urea and uric acid play an important part in conferring immunity or rendering susceptible to tuberculosis. Thus it has been noticed that patients with gout or calculus rarely contract tuberculosis. On the other hand, diabetics are very prone to it. For these and many other facts the author some day hopes to see an explanation in the chemical composition of the urine. Meanwhile, having gathered the impression that urea and uric acid in the fluids of the body are

deleterious to the tubercle bacillus, he decided to test his new treatment—the administration of pure urea, with which he combines pure air and a nutritious diet, particularly rich in albumen, giving as a special article one kidney daily with  $\frac{1}{2}$  pint of concentrated beef-tea. Besides, exercise in the open air and drugs like iron, creosote, strychnine, as well as cod-liver oil, are administered.

The urea was given either by mouth, in doses of 1 scruple three to four times daily, or hypodermically in doses of 40 grn. to 1 dr., dissolved in 4 dr. of distilled and sterilized water, injected into the gluteal region.

The remedy was tried in many hopelessly bad cases and gave highly encouraging results. The author feels justified by an extensive experience with urea in tuberculosis in calling urea the only remedy for the disease and thinks its value is best seen in cases not complicated by other cocci.

#### OREXINE TANNATE IN LOSS OF APPETITE

Anorexia is a troublesome and serious symptom of a host of various diseases, and as such deserves the full attention of the practitioner. The treatment of this condition is very difficult and often ineffectual, notwithstanding the numerous remedies in use.

Where an organic disease of the stomach is the underlying cause, the routine measures, such as diet, tonics, hydrotherapy, massage, etc., will be valuable to a certain extent. Not so, however, in the anorexia of functional gastric disorders. These cases are often most trying to the physician, and an efficient remedy will be most welcome.

As such a remedy, Dr. Joseph Bodenstein<sup>1</sup> recommends orexine tannate, which he has employed with great success for the last five years. According to Penzoldt, the salts of orexine shorten the stay of food in the stomach, improve or excite the appetite, and in half the cases increase the secretion of hydrochloric acid, and stimulate the motor and absorptive powers of the stomach. Excellent results followed the administration of orexine tannate in hyperemesis gravidarum, anorexia of children and consumptives, and in gastric neuroses. The author reports six new cases tending to corroborate former statements. The diseases included in this series are gastric cancer, chlorosis, anemia, typhoid fever, pneumonia, and diphtheria. Orexine tannate, in doses of 5 to 8 grn., two to

<sup>1</sup> *Klin.-therap. Woch.*, VIII, No. 4.

<sup>2</sup> *Lancet*, No. 4045.

<sup>1</sup> *Wiener med. Presse*, XLI, No. 50.

four times daily, was given. In all the cases the appetite improved considerably, in some the increase being truly astonishing. Rapid gain in weight naturally followed. In some cases the good appetite was found to persist even after the remedy was discontinued.

Equally favorable results were obtained by the author in patients with chronic alcoholism, in heavy tobacco-users, etc. The increase in appetite is closely connected with the increased secretion of hydrochloric acid, caused by the orexine. As is well known, in fever and blood diseases the loss of appetite is due to diminished secretion of hydrochloric acid.

The most brilliant successes achieved by orexine tannate were in those neurasthenic and hysterical conditions which lead to loss of appetite, and also in the nervous form of dyspepsia following sexual excesses, drug habits, and violent emotional disturbances. Taken all in all, the author considers orexine tannate an invaluable appetizer.

#### SENECIO IN MENSTRUAL DISORDERS

Senecio Jacobea (the common ragwort) is considered as a useful remedy in functional amenorrhea by Dr. Wm. Murrell.<sup>1</sup> He says that in those cases which are not associated with anemia it is a drug of the very greatest value; where anemia is present, a preliminary course of iron is necessary before the administration of the emmenagogue. The best way of administering it is in the form of a 10-per-cent. tincture made from the whole plant. The dose of this tincture is 4 drams, and it may be flavored with syrup of lemon and spirit of chloroform. [Senecio Jacobea is one of the European varieties of senecio; the varieties mostly used here—by eclectic physicians—are *S. aureus* or golden senecio and *S. gracilis*, having the synonyms "life-root," "female regulator," etc.].

#### THE SKIN AS AN ABSORBING MEDIUM

Dr. Thomas F. Reilly<sup>2</sup> reviews the development of our knowledge in this line and its utilization for applying remedial agents externally. This method was much in vogue early in the century, was rejected later on, and recently seems to be reviving again. It has been shown of late that many substances, when applied to the skin, are first converted into a gaseous state and then absorbed. The free passage of oxygen and carbon dioxide through the skin, though

well known, has only lately been utilized for practical purposes. Again, many substances which are not absorbed if applied to the skin, find ready absorption if first dissolved in a volatile medium, like ether, chloroform or alcohol.

Passing over to special data, the author says that fats and medicines dissolved in fatty vehicles are to a degree absorbed through the skin, especially if applied with vigorous friction. Petrolatum, on the contrary, is useless for practical purposes in this respect, being unabsorbable.

Wool-fat, if applied with friction, is the best base we have, particularly if mixed with castor-oil.

Of medicines, mercury is probably the oldest one employed externally, and our inunction treatment proves its efficiency.

Iodine, as tincture or in the form of an iodide, is also certainly absorbed and appears in the urine. Europhen and iodoform, salicylic acid, methyl salicylate, and oil of gaultheria are all absorbed if applied to the skin. The inunction of metallic silver as unguentum Credé has of late found extensive use in septic conditions. Credé states that two-thirds of the ointment penetrates the skin. Quinine and phenacetin may also be applied in the form of ointment. Creosote and guaiacol have been often used locally to reduce high temperatures. Lately, ichthyol has been employed externally for its constitutional effects in measles and smallpox, and is said to reduce the temperature rapidly. Pilocarpine externally produces profuse sweating; digitalis leaves, in the form of poultice, have a diuretic action; belladonna ointment has caused poisoning. Cod-liver oil may be given by inunction in scrofulous conditions with good effects.

The dosage for external application is two to four times the dose by mouth. Many remedies which are not tolerated by the mouth may be given by inunction. To favor their absorption, the skin should be well cleansed and the remedy applied with friction.

#### GELATIN INJECTIONS IN HEMATURIA

Subcutaneous injections of gelatin have been employed in hemorrhages from various internal organs, as stomach, lungs, intestines. In cases of hemorrhage from the kidneys this procedure has been pronounced by some as dangerous and contra-indicated. Dr. Gossner<sup>1</sup> reports a case which would seem to disprove these apprehensions. A man, whose health had previously been very good, was taken ill

<sup>1</sup> *Med. World*, XIX, No. 5.

<sup>2</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 4.

<sup>1</sup> *Munch. med. Woch.*, XLVIII, No. 2.

with pains in the right lumbar region and passed bloody urine. No definite diagnosis could be reached in spite of repeated examinations with the aid of all modern methods. The usual remedies, like ergot, tannin, lead acetate, etc., failed to influence the hematuria. Finally a trial was made with gelatin injections, after it was proved that the right kidney was intact and the hemorrhage had its source in the pelvis of the organ.

At first 200 Cc. of a 2½-per-cent. solution of gelatin was injected into the right upper breast region. The injection was very painful, a swelling appeared around the punctured spot, and severe pains, headache, lassitude, and aching of joints were prominent.

These symptoms persisted all day and night. The therapeutic effect of the injection, however, was striking. The patient passed a clear, bloodless urine the next morning. The hemorrhage did not reappear and two months later the man could resume his duties as an officer in the army.

The gelatin solution must, of course, be sterilized before use and injected at blood-heat. Carnot's method of sterilizing consists in raising the fluid to the boiling-point on several successive days with certain intervals between and preserving the solution in sterile vessels. Recently, Pensoti has devised a method of injecting small quantities (3 Cc.) of a 30-per-cent solution by means of an ordinary hypodermic syringe.

The instantaneous success after one injection in the above case is not so unusual, as a similar result has been obtained by Kehr in a case of gastro-intestinal hemorrhage on injecting 200 Cc. of gelatin solution.

#### NAPHTALIN IN PUERPERAL ENDOMETRITIS

In a large number of puerperal cases possessing an elevation of temperature, Dr. Kirsner<sup>1</sup> limits his treatment to vaginal irrigations and external applications of ice, ichthyol, etc. Further interference is avoided, unless the case takes a serious turn and symptoms of puerperal endometritis appear, when naphthalin is introduced into the uterus on gauze, which thus comes in contact with the inner surface of the organ and provides a capillary drainage. The tampons are prepared by dipping a strip of iodoform-gauze in a solution of ichthyol in glycerin (1:8), squeezing it out moderately and dusting freely with finely pulverized naphthalin. The length of the gauze strip is

about 6 yards. Having thus prepared the packing, the vagina is irrigated, the cervix cleansed with carbolized glycerin, and the uterus freed from its débris by wiping it out with cotton or by curetting. The uterus is then packed, leaving the cervical canal free; the vagina is packed with dry iodoform gauze. From six to twelve hours later the tampon is removed. As a result the temperature falls rapidly and the secretions lose their offensive odor. If necessary, the packing may be repeated.

#### THE TREATMENT OF PNEUMONIA

The therapeutic management of pneumonia has gone through a series of interesting changes, without having as yet reached the final stage of development. The old physicians had very erroneous ideas about the etiology of this disease, and their treatment was faulty accordingly. Routine blood-letting, emetics, purges, blisters, scarification, and cupping were their weapons in combating the disease. With the advance of knowledge most of these measures were abandoned and new and more rational procedures adopted in their stead. Still we have as yet no generally accepted uniform methods of treating pneumonia.

Dr. J. M. Allen,<sup>1</sup> who has in the course of time modified his plan of treatment to conform to modern etiological conceptions, recommends the following measures: At the beginning he administers a purge made up of rhubarb and calomel, and afterwards keeps the bowels gently moving with castor-oil and turpentine. After the purgative he gives sodium salicylate in doses of 10 to 15 grn. every three to four hours. This drug acts as a germicide and is continued until the fifth or sixth day, when the germs may be considered destroyed. During exacerbations of fever 5 to 7 grn. of Dover's powder are administered. This also controls the pain and relieves shock. After the fifth or sixth day sodium salicylate is stopped, tincture of ferric chloride, quinine and nitroglycerin being substituted for it.

Heart stimulants may be indicated throughout the disease, and as such the author employs digitalis, strophanthus, and strychnine.

Where the presence of streptococci and staphylococci in large quantities is suspected, the author has seen good results from antistreptococcic serum. Oxygen inhalations he has also found of value.

<sup>1</sup> *Rev. de Thérap.* LXVII, No. 19.

<sup>1</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 9.



### IODIPIN AND BROMIPIN

Dr. Ludwig Rahn<sup>1</sup> states that of the latest iodine compounds iodipin is the most important. The product is a combination of iodine with sesame oil; that is, with the glycerides of fatty acids. Preparations of two different strengths are on the market—containing 10 per cent. and 25 per cent. of iodine, the latter especially suitable for hypodermic use. The new product bids fair to become a general substitute for the alkaline compounds of iodine, possessing all their properties without their disadvantages and has already attained considerable commercial importance.

Similar in composition is bromipin. It is asserted to possess very effectual properties in the treatment of nervous conditions of all kinds, particularly those of an hysterical character. Moreover, the agent has a cosmetic action and produces a healthy, blooming complexion. This remedy is already widely appreciated.

### THE THERAPEUTICS OF DIGITALIS

The subject of the pharmacology and therapeutics of digitalis has received unusual attention of late. Unfortunately the results obtained and the conclusions arrived at by the various investigators are not uniform and in some respects even entirely contradictory. Dr. Wm. H. Porter<sup>2</sup> has made an exhaustive and critical review of the literature of digitalis, and basing himself on his extensive experience with the various preparations of the drug in all forms of disease—an experience extending over a period of more than twenty years—he reaches the following conclusions: (1) The composition of digitalis is very complex and some of its active principles antagonize others. (2) The various preparations differ widely in their composition and action. (3) Its cumulative action is due to its contracting the arterioles, thus shutting off nutrition. (4) It is both a useful and dangerous remedy, and one that has a very limited range of usefulness. (5) It is only of use in lesions of the mitral valve, and even then only for a short time. (6) It should only be used when there is a low arterial tension and marked venous engorgement, and as soon as these conditions are overcome, its action should be suspended. (7) As a diuretic, it is only of value when there is low arterial tension, venous engorgement, and obstruction to the exit of blood from the

kidney. (8) Acting upon the normal and in all diseased conditions in which there is obstruction to the exit of blood from the kidney, it decreases the excretory activity of the renal glands, and impairs their nutritive activity. (9) If pushed to its fullest extent it may completely arrest functional activity of the renal glands.

### INTESTINAL ANTISEPTICS IN THE PUERPERIUM

Dr. Harriet E. Garrison<sup>1</sup> is thoroughly convinced, from practical experience, of the great value of a clean intestinal canal as a prophylactic of puerperal fever. If there is no time to administer an enema before delivery, saline laxatives must be given as soon as possible after delivery. Rochelle salt is the best, and is given in dram doses every four hours, until the bowels have moved freely. Besides laxatives, the author recommends salol and quinine in 2-grn. doses, every four hours during the day, for five days. This renders the primæ viæ aseptic, and the blood being pure, it exerts an antitoxic effect on the various germs as it flows over the genitalia. It is important to maintain a proper flow of blood and prevent it from being dammed back. For this purpose a binder must hold the uterus in proper position, so that the cervix does not press anywhere upon the vaginal wall, thus allowing the os to become occluded with a blood clot. In order to keep the os patulous, the author uses, where necessary, the following combination:

Fld. Ext. Cimicifuga..... 2 dr.

Tinct. Gelsemium..... 2 dr.

Dose: Two drops every hour until flow is normal.

The external genitalia must be frequently bathed with hot boiled water and covered with a soft cloth made aseptic by heat. The author reports several cases, which proved the value of the treatment outlined above, and adds that under it 99 per cent. of all cases will make an uninterrupted recovery. The vaginal douche is reserved for the end of the puerperium.

### THE THERAPEUTIC VALUE OF GASTRIC JUICE

Following the suggestion of Pawlow and Lukjanow, Dr. A. A. Finkelstein<sup>2</sup> conducted a series of experiments with the gastric juice of dogs. The clinical material comprised cases of gastric catarrh, carcinoma ventriculi, typhoid fever, diabetes, and biliary calculi. From 50 to 200 Cc. of gastric juice was administered

<sup>1</sup> *Klin.-therap. Woch.*, March 10, 1901.

<sup>2</sup> *Amer. Med.*, 1, No. 4.

<sup>1</sup> *Amer. Med.*, 1, No. 4.

<sup>2</sup> *Centralbl. f. d. ges. Therap.*, xviii, No. 12.

in the twenty-four hours. Patients with cancer of the stomach derived positive benefit from the remedy. Vomiting and pain were relieved, the appetite improved and the patients gained in weight.

In cases of gastric catarrh the remedy gave highly satisfactory results. The bad taste in the mouth disappeared, as did also the eructations and pyrosis; the feeling of pressure and weight as well as the pain were relieved. The psychic depression and various nervous symptoms vanished. Two cases of anemia were also undoubtedly benefited by the gastric juice. In typhoid fever the remedy was tried as to its influence on temperature, knowing that in fever the function of gastric glands is in abeyance. In seven out of nine cases the effects were favorable, in one doubtful, and in one negative.

#### THE TREATMENT OF PLEURISY

In a paper read at the New York Academy of Medicine, Dr. C. H. Lewis<sup>1</sup> discussed the value of injections of methylene blue in pleurisy. His idea is to promote the formation of adhesions, after which aspiration will effect a cure. This purpose is accomplished by methylene blue (medicinal), which is an antiseptic, diuretic, and anodyne. A certain quantity of the serous effusion is withdrawn, mixed with 10-15 grn. of methylene blue and returned to the pleural cavity. Twenty-three cases were thus treated, the average duration being fourteen days.

In the same meeting Dr. Julius A. Becker described the routine treatment of pleurisy at the New York Mt. Sinai Hospital. When pleurisy follows rheumatism, anti-rheumatic remedies are administered. The pain is met by blisters, the cautery, strapping, and the use of opiates. As soon as the action of the lungs is interfered with, aspiration is performed. In large purulent effusions it is well to aspirate before operating, as this lessens the shock from the sudden withdrawal of the fluid.

During the discussion Dr. S. S. Burt, speaking of the treatment with methylene blue, mentioned some experiments published five years ago, showing that the drug causes acute degeneration of the kidneys and liver, and acute cystitis.

To this Dr. Lewis replied that in his cases the urine was examined daily and no evidence of bad effects of methylene blue was ever found.

Dr. H. P. Loomis said that he considers

pleurisy with effusion in tuberculosis as a conservative effort of Nature, and therefore abstains from interfering with the condition. He thinks the effusion acts favorably by splinting the lung and thus securing its rest.

Prof. Wm. H. Thomson spoke of the danger of some gymnastic exercises after pleurisy, especially such as require the raising of the arms over the head. Hemorrhage can occur through rupture of adhesions even years after the attack. It is advisable to have the chest strapped for about six months after an attack of pleurisy.

#### ICHTHYOL IN MOLES

Congenital moles are either formed by arterial vessels or they consist of small veins. The former have a tendency to grow rapidly, while the latter remain stationary. To remove the arterial naevi, simple but continuous compression usually suffices. This is best accomplished, according to Unna,<sup>1</sup> by painting with ichthyol-collodion: ichthyol, 1 part; collodion, 9 parts. The nevus is painted with this fluid two to three times daily. After a few days a thick crust is formed, and after it falls off spontaneously, the procedure is repeated and continued for some time after to prevent recurrence.

#### THE THERAPEUTIC USES OF GELATIN

Several new indications for the employment of gelatin injections are mentioned by Pensuls.<sup>2</sup> He recommends them for styptic purposes in all cythemolytic conditions, in cases of hemorrhagic infections, and particularly in dysentery and ulcerative intestinal affections. The remedy is superior to all others, including ergotin. The dose is 3 Cc. in severe cases, repeated two to three times daily. The solution is prepared by taking a thirty-per-cent. solution of the purest gelatin, adding  $\frac{1}{3}$  to  $\frac{1}{2}$  min. of carbolic acid for every cubic centimeter, and filtering at 100° C. (212° F.).

**ERRATA.**—In the abstract "Creosote in Pneumonia" (May issue, pp. 191-192), the thirteenth and fourteenth lines on p. 192 should read—"The dose as given by the author is: Of creosote, 1 drop; of creosote carbonate,  $7\frac{1}{2}$  drops, repeated at frequent intervals."

In the abstract "Large Doses of 'Creosote' in Typhoid Fever" (May issue, p. 194), read 'Creosotal' instead of 'Creosote.'

<sup>1</sup> *Jour. Amer. Med. Assoc.*, xxxv, No. 11.

<sup>2</sup> *Therap. Monatsh.*, xiv, No. 8.

<sup>2</sup> *Wiener med. Presse*, xli, No. 50.

# MERCK'S ARCHIVES

## MATERIA MEDICA OR DRUG THERAPY

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JUNE, 1901

OUR readers know that the ARCHIVES is a practical journal, intended to be of use to the general practicing physician. We are constantly and strenuously endeavoring to make it more and more useful, more and more practical, and more and more indispensable to the physician. But we need *your* aid and assistance. If you have had an interesting case in your practice, kindly describe it briefly and send your notes to us. If these form but a few lines, or if they do not seem important enough for an original paper, send them in the form of a letter to the editor. Letters to the editor are perused with as much interest as original papers. If you have a well-tried and effective formula for the treatment of some ailment, communicate it to us. A really good original formula is sometimes more useful and more welcome than a long, abstruse paper on some mooted point in pathology—and this is stated without in the least underestimating the value of the theoretical sciences as such. A formula may certainly be of more immediate and direct benefit.

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It is perhaps true that the large and constantly growing demand for quiz-compend is a sad commentary on the mental caliber of the medical student. The true, thorough-going, conscientious learner has no need of quiz-compend. But to say that quiz-compend are of no value whatsoever and are always injurious, is to go to an unjustifiable extreme. They are injurious only when they are used *in lieu* of text-books, as the sole source of instruction. Used as reviews, after the large text-book has been gone over several times, they are unquestionably useful; they help to en-

grave upon the tablets of the memory the most salient facts. Before the advent of the quiz-compend, each student was obliged to write out for himself a sort of digest, so as to be able to glance through and review the subject in a short time. The quiz-compend is simply a time saver in this respect. So that here again, as elsewhere, it is not the use of the thing, but the abuse, that is injurious.

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AGAIN, to say that the quiz-compend is a purely American product is decidedly wrong and at variance with the facts. The German student of the present day is perhaps as fond of the quiz-compend as his American confrère and in no country do the Repetitoria find such a large sale as in Germany or Austria-Hungary.

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It is an error to assume that a vacation represents an expenditure of time and money and nothing else. Very often, if properly used, a vacation becomes an excellent, high-interest-bearing investment. The rest to the mind and body, the stock of fresh impressions and ideas, the recuperation of the forces in general—all contribute toward doing better work and more work, when the vacation is over. It would therefore be an act of wisdom, if you can possibly do so, to knock off a week or two—or a month or two if you can afford it—and go to the Pan-American Exposition, we'll say.

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THE man who more than anybody else helped to make our Pharmacopœia what it is—namely, the best Pharmacopœia in the world—was Dr. Charles Rice, whose death a short time ago came as a painful shock to all those who knew him personally or knew of him, of his sterling qualities, of his remarkable erudition and linguistic accomplishments, and of his indefatigable energy. As chairman of the Committee of Revision of the U. S. Pharmacopœia his wise counsel and guiding hand will be sorely missed.

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WE are in receipt of a communication asking us what we think of the no-breakfast idea, whether it is really such a panacea for human ills as its advocates would make us believe. The no-breakfast idea is a fad and, like every other fad, is to be condemned. Some people get along excellently and feel better without breakfast—let those just keep on. With the great majority of people, though, breakfast is an absolute necessity; their vitality is at the lowest ebb in the morning, and to *force* upon such people the no-breakfast idea—as some zealots are known to do—is absurd.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

S. G. L. asks to be enlightened on several points. He writes: (1) What is the correct dose of Aspidospermine? I have read in some *materia medica* that not over  $\frac{1}{16}$  grn. should be given, but Merck's Manual states the dose to be from 1 to 2 grn. Also, is the drug safe to use in dyspnea due to heart-disease (organic)? (2) What is Columbian spirits of alcohol, and how does it compare with grain alcohol? Is it as good as the latter for external use? (3) I find that Sodium Bicarbonate is usually added to most rheumatic remedies containing sodium salicylate. Why is it and does it add to the efficiency of the salicylate? In the following prescription, how much sodium bicarbonate should be added, and how can a clear solution be made?

R. Sodium Salicylate .....	3jss
Sodium Bicarbonate .....	(?)
Wine Colchicum Seed .....	℥xl
Tr. Gelsemium .....	℥xvi
Tr. Cimicifuga .....	3i
Glycerin .....	3ijss
Aromatic Elixir .....	q. s. ad. 3ij

Sig. Teaspoonful per dose.

(1) The dose given in the Manual is correct, though many practitioners prefer to start with a small dose ( $\frac{1}{4}$  grn.) and gradually increase it. The common commercial aspidospermine is more toxic than the pure alkaloid, because it is contaminated with the other alkaloids—aspidospermatine, quebrachine, etc.—which are more poisonous than aspidospermine. While all authorities agree as to the value of aspidosperma or aspidospermine in dyspnea, whether asthmatic, cardiac, bronchitic or emphysematous, there are some physicians who do not advise its use in dyspnea connected with structural, organic changes. The chief effect being that of a stimulant to the pneumogastric, the cardiac and pulmonary plexuses are subject to its influence and it is therefore useful whenever there is evidence of insufficient oxygenation.

(2) Columbian spirit is a highly pure wood alcohol. Whether it is just as useful for external applications as grain alcohol is still an open question; it must not be forgotten that it came into use but recently, while ethyl alcohol has been used for centuries.

(3) The reason sodium bicarbonate or some other alkali is added to rheumatic mixtures is because it is believed that rheumatism is due to or accompanied by ex-

cessive acidity in the blood or tissues; and that the alkali neutralizes such acidity. In fact, many physicians rely entirely upon alkalies, discarding the salicylates. It is fair to add, though, that Alexander Haig—who is considered an authority on rheumatism, but who is unfortunately an extremist, his opinions therefore usually being accepted *cum grano salis*—has recently come out very strongly against the conjoint use of sodium salicylate and alkalies; he says that the addition of an alkali is positively injurious. Regarding the prescription, it *cannot* be made as a clear mixture, and for a very simple reason: the menstruum is alcoholic and sodium bicarbonate is insoluble in alcohol. The amount to be added may range from 1 to 3 dr. (about 4 to 12 grn. to dose). When sodium bicarbonate is ordered in a mixture containing salicylic acid, it is done for the purpose of forming fresh sodium salicylate. The proportions of salicylic acid and sodium bicarbonate required for complete neutralization are 3 parts of the latter to 5 parts of the former (36 grn. of sodium bicarbonate to 1 dr. of salicylic acid).

J. L. MacG. asks for the best method of using Sodium Ethylate in the removal of warts.

The best preparations of sodium ethylate for removing warts are sodium ethylate Richardson, diluted with 1 to 2 parts absolute alcohol, or the Liquor Sodii Ethylatis of the British Pharmacopœia, which contains 19 per cent. of sodium ethylate; 10 per cent. of chloroform may be added if desired. Either preparation is best applied by means of a glass rod, and it is well to cover the surrounding healthy tissue with petrolatum, to prevent escharotic action on it. The chloroform diminishes the causticity.

C. D. DeW. writes: Please give me an efficacious treatment, if there is such, for vulvar eczema, with severe and indomitable pruritus. Give local and general treatments. It would be well, I think, to give several recipes. No diabetes and no leucorrhea.

Vulvar eczema with pruritus belongs to a class of affections which frequently make the physician wish he had selected some other profession. Some varieties are exceedingly rebellious to treatment. Still, with care every case should be cured or greatly alleviated. One of the best applications is a strong solution of silver nitrate. The strength may vary, according to the severity of the symptoms, from 20 to 120 grn. to the ounce of distilled water. This solution must be painted on several times a

day, and is very efficacious (in scrotal pruritus as well). For the night the following ointment should be thoroughly applied to all affected parts: Resorcin, 20 grn.; salicylic acid, 10 grn.; cocaine hydrochlorate, 12 grn.; ichthyol, 40 min.; wool-fat, 4 dr.; vaselin, to make 1 oz. Frequently the application of cloths wrung out of boiling hot water prior to the use of the ointment, will increase the efficiency of the latter.

Other good combinations are:

Menthol, 20 to 40 grn.; chloral hydrate, 20 grn.; resorcin, 20 grn.; petrolatum, 1 oz.

Solution lead subacetate, 30 min.; morphine sulphate, 4 grn.; atropine sulphate,  $\frac{1}{4}$  grn.; cocaine hydrochlorate, 8 grn.; cold cream, 1 oz.

Oil of peppermint, 1 dr.; carbolic acid, 1 dr.; linseed oil, 2 oz.; lime water, 2 oz. Apply freely on cloths.

Menthol, 20 grn.; hydrocyanic acid, 1 dr.; morphine sulphate, 4 grn.; wool-fat, 2 dr.; cold cream, to make 1 oz.

Potassium permanganate, 1 to 4 dr.; distilled water, 8 oz. Apply freely and frequently.

Applications of solutions of sodium thiosulphate, copper sulphate, chromic acid, etc., are also efficient.

It is well to change the prescription occasionally, because an application that may have acted very well in the beginning may lose its effect in a week or two. Concerning internal treatment, the channels of elimination, the bowels and the kidneys, must be attended to. For the bowels, a mixture of rhubarb and soda with cascara sagrada is usually the best; for the kidneys, lithium citrate, sodium benzoate or salicylate (5 grn. in a glassful of water, three to six times a day) is beneficial: it flushes the urinary apparatus and prevents the urine from becoming too concentrated. Occasionally a course of bromides will be found necessary, in addition to the treatment outlined above.

R. W. M. asks for the composition of Cactina Pellets and of Peruna.

Cactina pellets are claimed to contain the active principle of *Cactus grandiflorus* ("night-blooming cereus"). *Cactus grandiflorus* exerts an undoubted action on the heart; it is useful particularly in functional disturbances, such as palpitation, irregularity, etc. It is also claimed to be useful in mitral regurgitation. Whether the pills referred to really represent the entire virtues of the drug we are unable to say. The other preparation is a secret nostrum, ex-

ploited in the daily press, etc., and on such preparations we, on principle, can give no information.

J. B. S. asks for the formula for a Concentrated Saline Solution, which he could use by diluting with water for infusion, subcutaneous or par-enchymatous injection, etc.

Dr. Wm. Porter recommends the following solution, which is a modification of Jennings':

Sodium Chloride .....	30 grn.
Potassium Chloride .....	60 grn.
Sodium Sulphate .....	60 grn.
Sodium Phosphate .....	40 grn.
Sodium Carbonate .....	60 grn.
Boiled Distilled Water .....	6 fld. oz.

When wanted for use, 1 part of this solution is mixed with 60 parts of freshly sterilized distilled water. Of course the ingredients must be pure.

H. E. S. writes: Will you kindly give me the formula for the mixture used in intrapulmonary medication, mentioned on page 103 of the *March ARCHIVES*. I have long wanted a formula containing formaldehyde, and shall greatly appreciate an answer.

We have written to the author of the original article, Dr. Chas. R. Upson, who kindly furnished us with the following information: "The formula of my inhalation solution—or, rather, mixture—mentioned in my paper, 'Important Points in the Management and Treatment of Consumption,' in the *Medical Record* (Jan. 19, 1901), is:

B. Menthol .....	gr. xx.
Formaldehyde (medicinal) .....	gtt. xv.
Eucalyptol.....	{ aa. .... 3i.
Ol. Pine-needles. }	
Albolene .....	3i.

To be inhaled—to the point of tolerance—from a globe inhaler, several times daily.

"As the formaldehyde will not mix with the oils, the mixture should be well shaken during the inhalation. As the patient becomes accustomed to the inhalation the quantity of the formaldehyde should be gradually increased to 3ss."

W. A. W. asks for information (1) as to the difference in action between Heroin and Dionin; (2) for literature as to the laxative effect of Apocodeine Hydrochlorate; (3) as to the chemical composition and therapeutic uses of Methylene Blue; and (4) as to the use of Indigo as an emetic in croup, which he saw mentioned in a medical journal.

To answer these questions seriatim: (1) While heroin and dionin (both morphine derivatives) are both sedatives, very serviceable in coughs, bronchitis, asthma, etc., dionin seems to us to possess a great ad-

vantage over heroin in being much less toxic. It is universally admitted that di-  
nin is even less toxic than codeine, while  
heroin is twice or three times as toxic as  
morphine. (2) Concerning apocodeine as  
a laxative, there have so far, to our knowl-  
edge, appeared but two communications,  
one by Dr. Toy, a few years ago, and one  
by Raviart and Bertin, assistants to Prof.  
Combemale, of the University of Lille. We  
have had no personal experience with the  
drug, but that it increases intestinal peri-  
stalsis is generally admitted. An abstract  
on the subject appeared in the March num-  
ber of the ARCHIVES, p. 108. (3) Meth-  
ylene blue (medicinal) is chemically tetra-  
methyl-thionine hydrochlorate. It is used  
to a great extent in malaria, hysteria, neu-  
ralgia, migraine, pyelitis, cystitis, etc. The  
usual dose is 2 to 4 grn., in capsule, with  
1 or 2 grn. of nutmeg. In strangury and  
acute cystitis it is often combined with  
small doses of opium or extract of bella-  
donna. It has also been recommended as  
a local application in malignant growths in  
general, and in neoplasms of the uterus.  
Great care must be taken not to confound  
it with methyl blue or other impure com-  
pounds used as dyes, and containing arsenic  
as an impurity and zinc. In prescribing,  
methylene blue, *medicinal* must therefore  
be specified. (4) We cannot indorse the  
use of indigo as an emetic.

A. R.—The formula of Bechtereff's Mix-  
ture for chorea is as follows:

Adonis Vernalis..... 40 grn.  
Water..... 6 oz.

Make infusion and strain; to the strained liquid  
add:

Sodium Bromide..... } of each, 60 grn.  
Potassium Bromide.. }  
Antipyrine..... 30 grn.  
Simple Syrup..... 5 dr.

Dose: A tablespoonful three to four times a day.

S. L. asks for some information on Azotic  
Acid, a reference to which he saw in a St. Louis  
medical journal.

Acide azotique is the French name for  
*nitric* acid. Some abstractors from French  
medical journals do not seem to be aware  
of the fact, and therefore translate it azotic  
acid.

J. P. C. writes: I have used Bromipin with  
what seemed to me very good results in two cases  
of epilepsy. It was certainly much superior in its  
effects to the bromides, which both my patients  
had been consuming in enormous doses. I ex-  
pect to publish a paper on the subject, should my  
further experiences prove equally satisfactory.  
But what induces me to write now is this: One  
of my patients, a rather delicate, nervous young  
woman, has quite an aversion to the taste of the

bromipin, and I experience some difficulty in  
making her take it. I have given it to her pure.  
Do you know of any way to disguise it so as to  
make it pleasant to the taste and acceptable to the  
stomach?

The oily but hardly disagreeable taste of  
bromipin can be disguised by the addition  
of a few drops of oil of peppermint, oil of  
cinnamon, or oil of bitter almond. An-  
other way is to administer it in the form of  
an emulsion. A very good formula, highly  
recommended by those who have tried it, is  
the following:

Bromipin ..... 3 oz.  
Yolks of Eggs ..... 2  
Brandy (best quality) ..... ½ oz.  
Menthol ..... 2½ grn.  
Dose: Tablespoonful several times a day.

J. F. R. asks for the best method of administer-  
ing Strontium Arsenite.

About three years ago Dr. Solomon pub-  
lished a formula (*Amer. Pract. and News*,  
Sept. 1, 1898) for the preparation of a solu-  
tion of strontium arsenite which we have  
no doubt will be found satisfactory. The  
formula is as follows:

Strontium Arsenite (Merck).... 4½ grn.  
Potassium Bicarbonate ..... 20 grn.  
Alcohol ..... ¼ dr.  
Comp. Spt. Orange..... 2 drops  
Syrup ..... 1 dr.  
Distilled Water..... to make 1 fl. oz

The strontium arsenite is triturated with  
half the amount of the potassium bicar-  
bonate, transferred to a small porcelain  
capsule, mixed with 2 dr. of water, and  
heated to boiling; the clear solution is  
decanted, the balance of the potassium bi-  
carbonate and about 2 dr. of water is added  
to the residue; the whole is brought to boil-  
ing, mixed with the decanted solution and  
with the other ingredients, and filtered,  
sufficient water being added through the  
filter to make up 1 fld. oz. This 1-per-cent.  
solution may be given in the same doses as  
Fowler's solution.

G. B. T. asks for information on the materia  
medica of and the therapeutic indications for the  
use of *Passiflora incarnata*.

*Passiflora incarnata* (common names,  
"Passion flower," "May pops") is a climb-  
ing shrub of the natural order *Passifloraceæ*.  
It reaches a height of from 20 to 30 feet,  
and is found in our country from Virginia  
to Florida, and also from thence westward  
to Missouri and Arkansas. The entire plant  
is used in medicine, though the root with  
the attached stem-base seems to be pre-  
ferred. Its therapeutic properties are chief-  
ly those of a sedative. It is claimed to be  
useful in all conditions of irritation of the  
brain and nerve-centers connected with

atony; in headaches; in sleeplessness due to overwork, worry or febrile excitement; in spasms, convulsions, hysteria, neuralgic and spasmodic dysmenorrhea, in cardiac palpitation due to excitement or shock, and in diarrhea and dysentery. It has also been used, internally and externally, in erysipelas. The dose of a saturated tincture is from 10 to 30 drops (U. S. D.); of specific passiflora, from a fraction of a drop to 2 fluid drams (King's Ecl. Disp.).

W. R.—Benzosol is the trade name for guaiacol benzoate. It is a white crystalline powder, insoluble in water, but soluble in alcohol. It is used as are the other compounds of guaiacol; dose, 3 to 15 grm., in powder or capsule.

N. L. M. writes that he saw recently Sulphuric Acid recommended as an external application for ringworm. He hesitated to use it, and asks whether it meets with our approval, and if so, in what strength is it to be applied.

Sulphuric acid has never, to our knowledge, been recommended for ringworm. What the writer saw was probably sulphurous acid; if *sulphuric* was printed, it must have been a typographical error. The sulphurous acid of the Pharmacopœia is applied in full strength.

A. R. R. writes: Though nicknamed Young Æsculapius, and though supposed to have taken the oath of Hippocrates, I know nothing about those personages, and should be grateful for some information on these subjects. As you know, the history of medicine is not even touched upon in our colleges. Should also be obliged for some points about Galen and Sydenham.

Æsculapius was not a real personage; in the Greek mythology he was the god of medicine. One of the legends connected with his name is to the effect that he had the power to bring the dead to life again; that he exercised this power so often that Jupiter, fearing the dominions of Pluto might become depopulated, killed Æsculapius by striking him with thunder. Hygeia, or the goddess of health, was, according to the same mythology, his daughter.

Hippocrates (universally honored as the "father of medicine"), on the other hand, was an historical personage. He was born on the island of Cos about the year 400 B. C. It is thus seen that he was a contemporary of Plato and Socrates. He became famous, according to Soranus, by his work in checking the ravages of the plague in Athens. All testimony goes to show that he possessed remarkable talents, rare sagacity, and a most unselfish love for and devotion to humanity. He was the first

one to pay attention to diet, climate, and the changes of weather as factors in disease; it was he who discovered the critical days in fevers. His aphorisms are witnesses of his acute powers of observation, and, though nearly twenty-five centuries old, they may be studied with great profit by modern doctors, both young and old. In short, it may be said that as an observer, discoverer, inventor, and humanitarian, he has had no equal in any physician, either of ancient or modern times. He had numerous pupils, from whom he exacted an oath—the celebrated Hippocratic oath—the principal points in which were that they would not abuse their trust by criminal practices and would not divulge professional secrets. Eighty-seven treatises are ascribed to him. The most important of those whose genuineness is not doubted are: "Prognostics," "Epidemics," "Air, Water and Locality," and "On Regimen." He died—some say—at 85, others 109 years.

Galen—in Latin, Claudius Galenus—was born in 131 A. D., at Pergamus. He traveled much, attending the best philosophical schools in each country he visited. At the age of thirty-four he settled in Rome, where he soon became famous as a physician, surgeon, and teacher of anatomy. He was an intimate friend of Marcus Aurelius. After Hippocrates, Galen may be considered the most famous physician of ancient times. He was daring and original in his methods and never hesitated to strike out in a new direction, regardless of authority or established precedent. He left numerous works on medicine, which had a powerful influence in shaping medical thought and action for many centuries. In fact, medicine as elaborated by Galen in the second century remained practically the same until the fifteenth century, when it was given a sudden impetus by the Jews and Arabs, then the most learned and civilized people of the world. Among his works there are treatises on anatomy, physiology, pathology, etc. He also wrote a number of works on philosophy, ethics, logic, etc. He died at the age of eighty (some put it at seventy) in his native town, whither he had returned when of advanced age.

Thomas Sydenham (the English Hippocrates) was born in Dorsetshire in 1624. He was graduated as a bachelor of physic in 1648; obtained the degree of doctor of medicine at Cambridge, and was admitted as a licentiate of the College of Physicians in 1663. In 1666 he published his "Treatise on Fevers," and in 1685 a collection of medical works under the name "Opera Omnia Medica." He died in 1689.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Summer Diarrhea of Children

In each case of diarrhea it is well before administering the medicines to wash out or irrigate the bowel with plain water or normal salt solution, or starch water. After this has been done it is well to give either a dose of castor oil or calomel, in small, frequently repeated doses ( $\frac{1}{10}$  grn. every half hour until ten doses have been taken). This cleanses the entire alimentary canal of any undigested or irritating material that may have been there and gives the subsequent medication a much better chance to exert its curative action. A very helpful adjunct to the treatment is the application to the abdomen of hot cloths sprinkled with pepper or brandy. As will be seen, opiates are recommended but very little, because it is thought best to get along without them whenever possible.

Bismuth Subnitrate .....	30	grn.
Bismuth Subgallate.....	30	grn.
Chalk Mixture .....	2	oz.

Teaspoonful every three hours.

Bismuth Subgallate .....	3	grn.
Tannalbin.....	5	grn.
Comp. Chalk Powder.....	5	grn.

For one powder. One such powder three to five times a day.

Tinct. Kino.....	2	dr.
Camph. Tinct. Opium.....	4	dr.
Spt. Peppermint .....	1	dr.
Chalk Mixture.....to make	3	oz.

Teaspoonful every four hours.

Tannalbin.....	2	dr.
Ichthoform.....	1	dr.

Divide into twenty powders. One every four hours.

Bismuth Subcarbonate.....	3	grn.
Tannalbin.....	5	grn.
Ichthoform.....	2	grn.
Calcined Magnesia.....	2	grn.

To make one powder. One such powder four times a day.

Tannalbin.....	2	dr.
Resorcin Resublimed.....	12	grn.
Glycerin.....	1	fl. oz.
Cinnamon Water.....to make	4	fl. oz.

Dessertspoonful every three to four hours for child two to three years of age. Shake well.

Tinct. Catechu.....	2	dr.
Bismuth Subnitrate.....	1½	dr.
Glycerin.....	3	dr.
Chalk Mixture.....to make	2	oz.

Teaspoonful per dose.

Tannalbin.....	1	dr.
Spt. Cinnamon.....	2	min.
Aromatic Powder .....	10	grn.
Sugar.....	10	grn.

Make ten powders. One every two or three hours.

Benzonaphtol.....	12	grn.
Bismuth Salicylate.....	24	grn.
Bismuth Subcarbonate.....	18	grn.

Make into twelve powders. One every two hours for a child six months old.

### (IN DYSENTERIC DIARRHEA)

Magnesium Sulphate.....	2½	dr.
Aromatic Sulphuric Acid.....	1	dr.
Glycerin.....	1	dr.
Anise Water.....	2	oz.
Chloroform Water.....to make	4	oz.

Teaspoonful every hour, until character of discharges is changed, then every two to four hours.

### Diarrhea of Adults:

Tannalbin.....	3	dr.
Morphine Sulphate.....	1½	grn.
Salol.....	1	dr.
Camphor.....	12	grn.

Divide into 12 powders. One every one or two hours.

For severe diarrhea in adults, accompanied by profuse and painful discharges:

Tannalbin.....	1	dr.
Ichthoform.....	1	dr.
Bismuth Subnitrate.....	2	dr.
Powd. Opium.....	6	grn.

Divide into six powders. One powder three or four times a day.

### Habitual Constipation:

Washed Sulphur.....	1	oz.
Potassium Bitartrate.....	1	oz.
Powd. Senna Leaves.....	4	dr.
Syrup Rhubarb.....	2	dr.
Fl. Ext. Cascara Sagrada.....	2	dr.

Make a confection. One teaspoonful at night.

### Flatulence and Colic in Infants:

Magnesium Carbonate.....	2½	grn.
Powd. Rhubarb.....	¼	grn.
Syrup Ginger.....	5	min.
Peppermint Water.....to make	1	dr.

For one dose.

### Stomach Lavage:

Sodium Borate.....	2	dr.
Creolin.....	4	drops
Salicylic Acid.....	18	grn.
Thymol.....	4	grn.

Use, with a quart of warm water, once a day after a plain water lavage.

Sodium Borate.....	2	oz.
Salicylic Acid.....	4	dr.
Boric Acid.....to make	4	oz.

Two teaspoonfuls to be added to a quart of warm water for washing out the stomach by means of the siphon tube.

### Eruetation of Gas:

Codeine Sulphate.....	4	grn.
Antipyrine.....	40	grn.
Tinct. Belladonna.....	40	min.
Simple Elixir.....	3	oz.
Peppermint Water.....to make	4	oz.

Teaspoonful every three or four hours until relieved.

### Vomiting of Acute Gastritis:

Wine Ipecac.....	4	dr.
Tinct. Nux Vomica.....	4	dr.

Two drops in water every two hours.



**Cancer of the Stomach:**

Bismuth Subnitrate.....	4	dr.
Carbolic Acid.....	16	min.
Chloroform Water.....to make	3	oz.

One tablespoonful before eating.

**Insomnia:****(OF DELIRIUM TREMENS)**

Chloral Hydrate.....	4	dr.
Tinct. Capsicum.....	1	oz.
Peppermint Water.....	5	oz.

One tablespoonful every two or three hours until sleep results.

**(OF HYSTERIA)**

Potassium Bromide.....	4	dr.
Chloral Hydrate.....	3	dr.
Tinct. Asafetida.....	4	dr.
Simple Syrup.....	6	dr.
Distilled Water.....to make	6	oz.

One tablespoonful every three hours until sleep results.

**(DURING CLIMACTERIC)**

Ammonium Bromide.....	3	dr.
Tinct. Hops.....	6	dr.
Camphor Water.....to make	3	oz.

One dessertspoonful in water at bedtime.

**(GENERAL NERVOUSNESS)**

Dormiol (50%).....	1	oz.
Comp. Spt. Orange.....	½	dr.
Syrup Raspberry.....	1½	oz.
Distilled Water.....to make	4	oz.

Shake well. Tablespoonful at bedtime. May be repeated in two hours.

**(DURING DENTITION)**

Chloral Hydrate.....	8	grn.
Sodium Bromide.....	15	grn.
Syrup Lactucarium.....	4	dr.
Distilled Water.....	4	dr.

One teaspoonful every hour until quiet. (For a child six months or older.)

**(DUE TO GASTRO-INTESTINAL DISTURBANCE)**

Sodium Carbonate.....	1½	dr.
Arom. Spt. Ammonia.....	5	dr.
Ammonium Bromide.....	1½	dr.
Comp. Tinct. Cardamom.....	1	oz.
Peppermint Water.....to make	4	oz.

One dessertspoonful at bedtime, and repeat in one hour if necessary.

**(DUE TO OVERWORK OR WORRY)**

Oil Turpentine.....	30	drops
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Take in capsule, at one dose, as a stimulant.

**(OF ALCOHOLISM)**

Strychnine Sulphate.....	1/8	grn.
Potassium Bromide.....	4	dr.
Simple Elixir.....to make	3	oz.

One dessertspoonful in water at bedtime.

Syrup Ginger.....	2	oz.
Arom. Spt. Ammonia.....	2	oz.
Tinct. Valerian.....	2	oz.
Sat. Solut. Potassium Bromide.....		

to make 8 oz.

One tablespoonful in water every three or four hours.

**(IN CHRONIC BRIGHT'S DISEASE)**

Chloral Hydrate.....	1	dr.
Syrup Orange Peel.....	1	oz.
Simple Syrup.....to make	2	oz.

Two teaspoonfuls in water, at bedtime.

**Bronchitis in Children:**

Tinct. Aconite.....	1	min.
Camph. Tinct. Opium.....	2	min.
Wine Ipecac.....	5	min.

At one dose, to be repeated every two hours. In addition, employ counter-irritation to the chest, inhalation of creosote or formaldehyde, and when necessary, administer ¼ grn. of calomel.

—SOLIS-COHEN.

**Croup:**

Chloral.....	75	grn.
Potassium Bromide.....	45	grn.
Ammonium Bromide.....	30	grn.
Cinnamon Water.....	2	oz.

Dose: One teaspoonful. Repeat in twenty minutes if not relieved.

**Cardiac Dropsy in Children:**

Potassium Iodide.....	2	grn.
Tinct. Squill.....	5	min.
Tinct. Strophanthus.....	5	min.
Spt. Chloroform.....	5	min.
Distilled Water.....to make	4	dr.

For one dose, three times a day, for a child from eight to ten years.

**Bedsore:**

Zinc Sulphate.....	45	grn.
Lead Acetate.....	30	grn.
Tinct. Myrrh.....	20	min.
Petrolatum.....to make	2	oz.

Spread on lint and apply.

**Punctate Acne:**

Ichthyol.....	} of each,	1 dr.
Bismuth Subnitrate..		
Ammoniated Mercury		
Petrolatum.....		10 dr.

Apply locally.

**Gonorrhea and Gonorrheal Cystitis:**

Formin Tablets (Merck) 5 grn. No. 50.

One tablet in glass of water, plain or carbonated, four to six times a day; or:

Formin.....	5	grn.
Salol.....	3	grn.
Boric Acid.....	2	grn.

For one capsule. Make thirty-six such capsules. One three or four times a day, followed by a glass of water.

**To Remove Corns:**

Salicylic Acid.....	1½	dr.
Ext. Cannabis Indica.....	10	grn.
Collodion.....	1	oz.

Apply at night and scrape off in the morning.

**Removal of Powder Stains:**

Ammonium Iodide.....	1	oz.
Distilled Water.....	1	oz.

Paint solution on the stains. This will turn them to a reddish color, which can be removed by painting with dilute hydrochloric acid.

The application of hydrogen dioxide is quite effective, also, in this trouble.

**Trigeminal Neuralgia:**

Ext. Cannabis Indica.....	6	grn.
Salicylic Acid.....	1	dr.

Make into ten cachets. One such three times a day.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**Laughter and Long Life.**<sup>1</sup>—It may be that some enthusiastic and laborious German statistician has already accumulated figures bearing upon the question of length of life and its relation to the enjoyment thereof; if so, we are unacquainted with his results and yet have a very decided notion that people who enjoy life, cheerful people, are also those to whom longest life is given. Commonplace though this sounds, there is no truth more commonly ignored in actual every-day existence. "Oh, yes, of course, worry shortens life and the contented people live to be old," we are all ready to say, and yet how many people recognize the duty of cheerfulness? Most persons will declare that if a man is not naturally cheerful he cannot make himself so. Yet this is far from being the case and there is many a man who is at present a weary burden to his relatives, miserable through the carking care of some bodily ailment, perhaps, or some worldly misfortune, who, if he had grown up into the idea that to be cheerful under all circumstances was one of the first duties of life, might still see a pleasant enough world around him. Thackeray truly remarked that the world is for each of us much as we show ourselves to the world. If we face it with a cheery acceptance we find the world fairly full of cheerful people glad to see us. If we snarl at it and abuse it we may be sure of abuse in return. The discontented worries of a morose person may very likely shorten his days and the general justice of nature's arrangement provides that his early departure should entail no long regrets. On the other hand, the man who can laugh keeps his health and his friends are glad to keep him. To the perfectly healthy laughter comes often. Too commonly, though, as childhood is left behind the habit fails, and a half-smile is the best that visits the thought-lined mouth of a modern man or woman. People become more and more burdened with the accumulations of knowledge and with the weighing responsibilities of life, but they should still spare time to laugh. Let them never forget, moreover, and let it be a medical man's practice to remind them that "a smile sits ever serene upon the face of Wisdom."

**Where the Crime of the Christian Scientist Lies.**<sup>1</sup>—The disingenuous methods adopted by the supporters of Christian Science were well displayed in a stormy discussion which, according to press reports, took place at a recent meeting of the Society for Medical Jurisprudence. One of the speakers pleading for "toleration" is reported there to have said: "Why, the very things they do are done in every Protestant and Catholic church in the country. Go into any of them, and if one of their prominent members happens to be sick, you will hear them praying for his recovery without any regard to whether he has a doctor or not." But when has any objection ever been made to Christian Scientists, or any one else, not only praying for the recovery of the sick, but even bringing to bear the influence of the strongest possible suggestion toward it? The Christian Scientists do *not* pray "without any regard to whether he has a doctor or not," or, as we should prefer to express it, without regard to whether all

known material or mechanical aids are used, or not. There could not be the remotest objection to their supplementing material and mechanical therapeutic efforts with any mental process they chose to employ. Every Christian, of whatever denomination, daily utters, or should utter, the simple petition, "Give us this day our daily bread," and that, or a similar tribute of reliance upon the Omnipotent One, is used by many who do not profess to be Christians; but none of them considers that that fact justifies him in sitting down idly and folding his hands, without making an effort to attain that for which he prays. Would any Christian Scientist exonerate the guardian of a child, should the child die of starvation because its guardian withheld all food, on the ground that matter was nothing and only Divine Mind fulfilled the processes of nutrition and caused the progress of the being in growth and health? Suppose a Christian Scientist's own child were playing in front of a fast-speeding car, and a man standing by did not even stretch out a hand to drag it away, not believing, forsooth, in material measures, but relying solely on the strength of Divine Mind. We should like to hear the Christian Scientist's opinion of that inhuman creature. No. It is not what the Christian Scientist does, it is what he refuses to do, that constitutes his crime against religion, society, the community, and the individual.

**Intuition in Prognosis.**<sup>1</sup>—Old practitioners, from long dealing with the sick, get an intuitive sense of prognosis, for which it might be hard to render adequate reasons. At a consultation, the scientific men were discussing with animation the pathological problems of the case, but the local attendant, an old Yorkshireman, quietly observed, "You may say what you like, he's ba'n to croak." And die he did.

A young practitioner is apt to err by thinking too much of the physical signs, and too little of the patient. I remember treating, when I was young in the art, a big active city man, who had a patch of crepitations at the base of one lung. I wanted to keep him in bed, but he grew restive and fled to the seaside, escaping from both bed and doctor at a stroke—and with impunity.

The first art we acquire is to treat the disease. To treat the patient is a talent which comes later. But the personality of the sufferer, his idiosyncrasy, his equation, enter largely into prognosis.

It is by degrees that we learn the value of rest—not "doing nothing" but "not hindering anything"—and that we discern the patient's chances of life to depend upon the completeness with which this rest is fulfilled. It is by degrees that we learn to "trust the human body!" Let me quote once more the philosopher who once adorned British medicine, Dr. Sutton: "Doctors who look too much on morbid anatomy, the dead side of the disease, are apt to give too gloomy prognosis. They cannot trust the human body."

**The Nerves Never Grow Old.**—Commenting on the causes of nervous disorders, Prof. W. H. Thompson says: "The message of modern science about the nervous system is that it has a greater store of reserve vitality than all the other bodily systems put together. It is the only texture that is found not to have lost weight after death by starvation, as well as after death by any cause. It is the last to grow old; and as to the mind, it need not grow old at all, provided it be steadily applied with that mighty spiritual element in us

<sup>1</sup> *Lancet*.

<sup>2</sup> *N. Y. Med. Jour.*

<sup>1</sup> R. Higston Fox, in *Edin. Med. Jour.*

which we call interest. Even the muscular system can be wonderfully sustained by interest; for should a man attempt the same muscular work on a treadmill which he lightly endures along a mountain brook after a trout, he would faint dead away. But the mind will, by interest, grow steadily, even while bone and sinew are wasting through age.—*Ex.*

**Two Obstetric Clinics.**<sup>1</sup>—Look, for a moment, at this obstetrical clinic in your modern maternity. See how the patient is prepared and disinfected, and also the operating-table, instruments, etc. Assistants and nurses are in immaculate white and at attention. Half a dozen seniors stand with craned necks and eager senses to see and learn how to perform a difficult, but common operative delivery. Now, watch the professor as he proceeds. First, antiseptic technique; second, every detail of diagnostic manipulation to determine whether this is a case for forceps, symphysiotomy, version, craniotomy or section; third, the proper procedure in the case being found, the proper kind of forceps are applied, and, in due time, the "Neu Weltburger" is brought forth and lies gasping for oxygen—the triumph of the grandest art of the twentieth century! Happy day that teacher and student can realize such wonderful achievement of medical science! How grand! How magnificent!

But there are other obstetrical clinics that illustrate other and different phases of the practice of medicine, and let us look at one of them for a moment. This scene is not in an up-to-date city, "Frauen-Klinik," but in a 16x20 farm house out on the bleak and dreary prairie, fifteen or twenty miles from the railroad station of Prairieville. The furniture of this operating-room consists of a couple of old bedsteads with still older and more dilapidated bed clothes, through which the straw mattress is everywhere discharging its contents; a cooking-stove, an ordinary table, a half dozen chairs, water pails, slop buckets, etc. For nurses we find one, two, three or more old women, who have prepared the patient for the operation by hours and hours of dilatation of the genital canal—manual dilatation—by unwashed hands to get the "babe" out—but in vain. Then there is the man of the ranch, and very likely a neighbor or two, to watch the new doctor in case the nurses should be knocked out by the chloroform, you know. And to make the "klinik" complete, there is from two to half a dozen "brats" squatting in the corner to yell at the top of their voices, when the woman begins to slumber under the anesthetic: "Mother is dying!" "Mother is dying!" The case is exactly parallel to the one in the clinic at the city hospital above related. It is a year, to a day, since the above grand event.

Now, we see one of those same seniors enter this prairie hospital, mud-bespattered, chilled through and through, and begin to unlimber his satchels, clothes, et al. He is now the new doctor of Prairieville, and is here perhaps at his first obstetrical clinic, to prove his proficiency in his glorious profession.

Here is a situation our young medic never dreamt of before, unless he has had the good fortune to have had a clinical professor who had been, sometime in his life, through some such experiences. But our young doctor is now ready for business. He feels for the pulse of the patient—it is running; her voice is hoarse; her look and groans an agonizing cry for help! Now watch the young man as he proceeds; for this is the fire that

tries the souls of physicians, which determines for himself and the community in which he has settled, whether he is a real physician or only a pretender. Water and soap are now ready, hands and arms cleansed and disinfected as best he may, an examination is forthwith made. What does he find? The pelvis is small, perhaps flat; the head of good size; the water was passed—hours, days ago; the soft parts tender and swollen; the presentation hard to make out. He meditates as he tries to gather his obstetrical lore into form and shape, but is interrupted by the anxious sufferer or spectators: "Doctor, what can you do?" Yes, what can he do? Can that child be delivered *per vias naturales*? A momentous question! A hard question to decide even for an expert. And now our young doctor must decide it, and at once, for delay is fatal. Oh, yes, he says to himself, if—I had assistants, nurses and yonder city hospital. I could do this, that, and the other thing; but here—and yet I must deliver that woman or stand a confessed failure. But if that young man has got the right stuff in him he rises to the occasion, his nerves become iron, his commands the fiat of the Almighty, the trembling hand of the bravest of his motley crew drops the chloroform on the mask—because he or she must—his determined eye, which shoots fire and electricity, cowers the critic. Now she sleeps—now the young doctor is getting over his stage-fright—now he works deliberately—now the forceps slip on and back—"give her more chloroform"—now he pulls, gently, yet steady—manipulates—pulls again—yes! it is coming—coming—coming—now the head emerges—forceps unlocked—shoulders got out—don't know exactly how—but the "babe" is here, and it is gasping—and the victory is won!

If the young doctor has not the soul of a hero in him in such a situation, what does he do? He recoils. He hesitates. His own doubts and fears infect the patient and all around him. Assistance is sent for twenty, thirty miles away, and arrives just as the mother of a family has passed to that undiscovered country from whose bourne no traveler ever returns.

I have seen in my humble experience—and so has every country physician—not a few well-educated and promising young men run into these snags, shiver their frail barks, and then retire to the great cities to engage in a specialty. Every country physician meets such cases right along, not only in obstetrics, but in medicine and surgery. Here is a strangulated hernia that must be operated upon at once. And here again an appendicitis, a ruptured tubal pregnancy, or an acute, obscure abdominal affection that only an exploratory operation can clear up. The country physician must diagnose all of these affections correctly and at once, and propose the proper method for relief; for otherwise the case may pass into other hands, perhaps to the present attendant's envious rival, and if any mistake has been made, then the first attendant may as well pull up stakes and move to pastures new. And, by the way, the legislature need not pass laws to prohibit incompetent physicians from practicing in the country; for competition does that. There is now in every town, of any size, one or more up-to-date physicians, and they make the rest of the fraternity keep up with the procession or go out of the business.

In the cities it is, of course, different. There, in the first place, gather the best and brightest men to enjoy the advantages of city life—libraries, colleges, and a polished and affluent clientele. But alongside of the best congregates also the worst element of the profession—the disreputable, the

<sup>1</sup> Christian Johnson, in *Northwestern Lancet*.

lazy, the dissipated, the total failures. It requires no ability, no effort, no responsibility to be a third-rate physician in a large city. If anything in practice is out of the ordinary way all you have to do is to ring the telephone, and in a few minutes you have competent and friendly assistance.

In the country, on the other hand, consultation is seldom practicable. The man within reach is often the attendant's envious rival, and for the latter to invite the former would mean, not only his own, but the patient's undoing. So the country physician has to buckle on the armor, and, like the valiant and errant knight of old, go out into the realities of the world alone. And yet, notwithstanding all that I have said, the practice of medicine, even in the country, is a grand and a glorious vocation.

Overcrowded? Not much. There is a demand from all over this State for good, common-sense, reliable doctors, but none of your fancy dudes.

**Discovery That Means Food.**<sup>1</sup>—The "New York Sun" says editorially: "We learn from a competent authority that one of the latest developments in electrothermism is the synthesis of oxides of nitrogen from atmospheric air. The importance of such a discovery to the world at large cannot well be overestimated. It will be remembered that some years ago Sir William Crookes, when President of the British Association, called attention to the rapid diminution of the world's supply of nitrates and pointed out their enormous importance as fertilizers in increasing the productivity of the soil. Sir William Crookes maintained, and his conclusions have been to a considerable extent accepted by scientific people, that the areas of the earth that could be devoted to wheat culture were rapidly decreasing, and that unless some means could be discovered of making them produce more wheat than they do now, the growing population of the world would within a comparatively short period cause the consumption of this great foodstuff far to exceed the supply of it. Nitrogen, of course, is the base of all fertilizers, and while there are not in existence natural beds of nitrate deposits in anything like sufficient quantity to supply fertilizing material for the purpose indicated, Sir William Crookes pointed out that if a method of "fixing" atmospheric nitrogen could be discovered it would solve the difficulty. If this method has now been found we have before us one of the greatest boons that have ever come to the human race. Cyanide of potassium is also one of the practical achievements of this new discovery and its use in the industrial arts is of widespread importance, especially in the economic separation of gold. As for the nitric acid thus made, it is absolutely pure, of standard specific gravity and is produced for one-eighth of the cost of the nitric acid of commerce. The new century starts out with no abatement of the marvelous speculative energy that so diminished its predecessor. And electro-metallurgy is still absolutely in its infancy."

**MÉNIÈRE'S DISEASE.**—Treatment varies with the cause. To quit the labyrinthine hyperesthesia, quinine sulphate is the favorite remedy, given in small doses; the hypodermic injection of pilocarpine (Politzer, Lucæ); in cases of syphilis the iodides; the bromides in the neurasthenics. The reflex trouble due to nasal or pharyngeal lesions must be considered and the latter treated. Ménière's syndrome is an important symptom of toxic labyrinthitis, which disappears frequently completely when the cause ceases.—*Med. Age.*

<sup>1</sup> *Med. News.*

## Correspondence

### MERCK'S ARCHIVES:

The statement made by Dr. Bardet, published in your May number, to the effect that Professor Arthur Nicolaïer improperly introduced hexamethylene-tetramine under the name of urotropin without giving him credit for his previous investigation, is erroneous. Bardet's preliminary and inconclusive experiments were not known to Professor Nicolaïer at the time that his first paper was written (*Centralbl. für die med. Wissenschaften*, 1894, No. 51), and he states that fact plainly in a subsequent article entitled, "The Therapeutic Employment of Urotropin" (*Deut. med. Woch.*, Aug. 22, 1895), and gives Bardet the credit of first experimenting with the drug.

SCHERING & GLATZ, New York.

### MERCK'S ARCHIVES:

I note under "Queries and Answers" in the ARCHIVES for May, 1901, p. 198, an interesting discussion regarding the doses of atropine. My experience with the use of this drug is greater, possibly, than that of most physicians. I use it hypodermatically. For the past twenty years it has been my fortune (or misfortune) to treat a large number of patients with epilepsy. In this disease I use very large doses, and have yet to see any untoward result. For an adult I commence with  $\frac{1}{100}$  grn., to be taken at bed-time every second night, gradually increasing to my maximum dose of  $\frac{1}{8}$  grn. (in one case I carried it to  $\frac{1}{4}$  grn.), and then fall back to  $\frac{1}{10}$  or  $\frac{1}{12}$  grn., and continue at this dose indefinitely—now giving it twice a week. I do not find the epileptic as susceptible as others. If on the succeeding day he makes complaint of the after-effects I decrease the dose slightly. I do not claim that atropine will cure the epileptic, but I do claim that under its use the attacks become milder and less frequent, and it thus aids other remedies in giving the patient a more comfortable and useful existence. J. D. EGGLESTON, M.D., Worsham, Va.

[The above communication, interesting *per se*, serves to corroborate our position in regard to doses. Posology is still in an uncertain condition, and it is the duty of every physician to make an independent and intelligent study of the subject, and to report his results. If any of our readers have had experience with unusual doses of drugs, we should like to hear from them.—EDITOR.]

### MERCK'S ARCHIVES:

I wish to report that I found the action of aqueous extract of suprarenal gland to be all that was claimed for it in Prof. Somer's article and clinical report, which was published in the *Therapeutic Gazette* of October, 1900. I used it in several cases of epistaxis and acute inflammation of the mucous membrane attended with hemorrhages. I also tried it with excellent results in severe hemorrhage attending a case of accidental abortion (3½ months' time) which resisted most other remedies. It appears to me well adapted to a large class of cases attended with inflammation and hemorrhage; and even in severe post-partum hemorrhages. I will add that previous to using the Merck's product, I had used extract of the suprarenal gland prepared by other manufacturing chemists with little satisfaction, which, possibly, may have been the result of improper preparation and use on my part.

STEPHEN F. STURDEVANT, M.D.,  
821 Chestnut street, Cincinnati, O.

## Book Reviews

We have always considered POTTER'S *HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS* one of the best and most original text-books for the use of student and physician. One of its great merits is that it is practical. A physician consulting a text-book on therapeutics seldom cares about the physiological action of a drug, and other mooted and debated points. What he wants to know is, in what diseases is the drug to be administered, what is its dose, and what is the best way of administration—and this Potter's Handbook answers each and every time, and in clear, concise, unequivocal language.

The present (eighth) edition has been revised and enlarged, some obsolete matter being discarded and new matter substituted. The division of the book is as follows: Introduction—Containing an excellent classification of medicines, methods of administration, etc.; Part I.—*Materia medica* and therapeutics, in which each drug from A to Z is considered alphabetically; Part II.—Pharmacy and prescription writing, a chapter of more interest to pharmacists than it is to physicians; Part III.—Special therapeutics, in which each disease is treated alphabetically, the drugs, with their doses, indicated in that disease also being given. The volume, in addition, contains a large amount of useful miscellaneous matter, such as treatment of poisoning, clinical examination in urine, tables of differential diagnosis, Latin phrases, etc. We repeat, we consider Potter's one of the best text-books on *materia medica* and therapeutics. (P. Blakiston's Son & Co., Philadelphia. Price, cloth, \$5 net; sheep, \$6 net.)

A SYLLABUS OF NEW REMEDIES AND THERAPEUTIC MEASURES. By J. W. Wainwright.—The intentions of the author in compiling the above booklet might have been good, but the work has been done in too hurried and careless a manner, and the information seems to be second-hand. The number of articles treated of is 114, which is decidedly too small a number when we consider the immense variety of synthetics and other new substances at present in actual use. Many articles are treated of too briefly, while to others more space is devoted than they deserve. Typographical errors are numerous. But the subject is handled in a fair manner, and if the author should enlarge and thoroughly revise the text, the work might make a useful reference book for general practitioners. (G. P. Engelhard & Co., Chicago.)

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Marcus P. Hatfield.—A useful little booklet for the medical student, treating, in a clear and succinct manner, of the diseases indicated in the title. The subjects discussed are scarlatina, measles, Röteln, parotitis epidemica, pertussis, varicella, variola, la grippe. The paper, printing and binding are good. (G. P. Engelhard & Co., Chicago.)

The literature of any period may be taken as a faithful index of the trend of thought and of the tendencies prevailing at that period. We have elsewhere commented on the fact that books on therapeutics, pure and simple, are much more frequent nowadays and find a wider sale than was the case two or three decades ago. A further significant sign of the times is the attention that is being paid at present to physical methods of treatment (and still the quacks accuse us of being only

drug-physicians!) That there is great virtue in hydrotherapy, electrotherapy, massage, phototherapy, etc.—methods to which the different genera of quacks are pleased to refer as natural methods of cure (*Naturheilmethoden*)—is of course admitted by every well-informed physician, and it therefore becomes our duty to place the proper estimate on those methods. It is the physician's duty to himself and to his patient to endeavor to find out the exact value of each of those methods and to use them when indicated. A *SYSTEM OF PHYSIOLOGIC THERAPEUTICS*, edited by S. S. Cohen, is an attempt to aid the physician in that direction. It will be published in eleven volumes and will cover the entire field of non-medicinal and non-surgical therapeutics.

The contents of the volumes follow: Vols. I and II.—Electrotherapy; III. and IV.—Climatology and health resorts, including mineral springs; V.—Prophylaxis, nursing, and care of the sick; VI.—Dietotherapy; VII.—Mechanotherapy; VIII.—Rest, mental therapeutics, suggestion; IX.—Hydrotherapy, thermotherapy, phototherapy, balneology; X.—Pneumotherapy; XI.—Sero-therapy, organotherapy, blood-letting, etc. The first two volumes are by Geo. W. Jacoby, and treat of electrotherapy in all its aspects. The only criticism we would make is that the subject matter is somewhat drawn out. We believe that the two volumes could have been easily compressed into one.

The name "Physiologic Therapeutics" seems to us illogical; a more appropriate and more correct name would be "Physical Therapeutics," because all the methods and forces treated of are purely physical. (P. Blakiston's Son & Co., Philadelphia. Price, \$2 per volume.)

UTERINE FIBROMYOMATA; THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT. By E. Stanmore Bishop.—This volume forms an excellent résumé of our present knowledge of the subject of fibromyomatous growths in the uterus. The author is opposed to medicinal treatment, and strongly advocates surgical procedure; but he supports his arguments well and seems to prove his case. A unique feature is a chapter on Final Results, in which the author tries to shed some light on the ultimate fate of those who had undergone an abdominal operation. The illustrations are excellent, and so is every mechanical feature of the book. (P. Blakiston's Son & Co. Price, \$3.50.)

MANUAL OF THE DISEASES OF CHILDREN, by John Madison Taylor and William H. Wells, professor and adjunct professor, respectively, of diseases of children at the Philadelphia Polyclinic, is a book of 870 pages, giving a succinct presentation of the entire subject in the regular orthodoxy manner. This is the second edition, and is both qualitatively and quantitatively much superior to the first. A number of new chapters has been added and several articles have been entirely rewritten to accord with the most recent discoveries and hypotheses. The book contains one plate (Koplik's spots, which plate promises to become an indispensable fixture in every new text-book on medicine) and forty-two illustrations. An agreeably complete index rounds up the volume. (P. Blakiston's Son & Co. Cloth. Price, \$4.50.)

CHIRURGIE DU FOIE ET DES VOIES BILIAIRES, par F. Terrier, professeur à la Faculté de médecine de Paris, et M. Auvray, médecin des hôpitaux de Paris. The subject of the surgery of the liver and of the biliary ducts finds a most thorough elucidation in this volume. Avec 50 fig. dans le texte, 10 fr. (Felix Alcan, éditeur.)

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

A MONTHLY JOURNAL FOR THE PRACTICING PHYSICIAN

CONDUCTED AND PUBLISHED BY MERCK & CO.

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Vol. III

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### The Action of Drugs in Health and Disease

CERTAIN propositions or statements are so apparently absurd that none but the crudest minds are likely to be deceived by them. Such statements are not dangerous. But there are propositions which, because containing in themselves a degree of plausibility, are extremely dangerous. Superficially considered, they appear based on logic and common sense, and it is only after a careful dissection—a process in which but few mortals are well versed—that their falsity becomes evident. It is such half-true propositions that Tennyson condemned in his well-known verses in language perhaps more strong than elegant.

A case in point is the statement: What will tend to make a well man sick, will make a sick man sicker. This assertion is repeated with great relish and with the proud, self-conscious triumph of having presented an unassailable argument by our friends the therapeutic nihilists and the anti-drug physicians. Superficially considered, the statement looks all right, and, what is more, it is true to a *certain extent*. Exhausting labor, exposure to dampness and noxious gases, large doses of drastic emetics and purgatives, etc., will tend to make a well man sick, and they will certainly make a sick man sicker. And it is just because of the element of truth in it that this statement is dangerous; offered as an axiom or a generality, it becomes utterly untenable. And it is not a hard task to prove its untenability. It can be done most advantageously by tak-

ing a few striking examples. Let a person in perfect health take digitalis. He will very speedily become sick. He will have headaches, general malaise, disagreeable cardiac palpitation; the urine will in many cases become diminished in amount, and if the digitalis be persisted in, complete anuria may result. All the symptoms are due to the property of digitalis to raise enormously the arterial blood-pressure. The healthy man's blood-pressure being normal—if it is not normal, the man is not healthy—the digitalis increases it to above normal; i.e., it produces a high arterial pressure, a condition existing in cardiac hypertrophy, interstitial nephritis, arteriosclerosis, etc.; in other words, it makes the man sick. Now take a person with a weak heart and a low blood-tension; the results following such condition are well known; congestion of the internal organs, overfilling of the portal veins and of the veins of the lower extremities, ascites, dyspnea, etc. Here digitalis works wonders: by increasing the power of the cardiac systole and by contracting the arterioles it raises the blood-pressure to the normal and the symptoms disappear; in other words, it makes the sick man well. It is a well-known fact that there are people who take digitalis for years and years and cannot get along without it. As long as they continue to take it, they can lead a comfortable existence; as soon as the digitalis is discontinued, the symptoms return.

A similar but perhaps still more striking

illustration will be found in nitroglycerin. A healthy person taking two or three drops (in some cases, even half a drop) of spirit of glonoin at once gets a flushed face, throbbing temples, splitting headache, palpitation of the heart, etc. Larger doses are positively unbearable. Why? Because the proper circulatory equilibrium is disturbed and the pressure that had been normal is reduced to a point that is below normal. But nitroglycerin given in conditions of high arterial tension, to a sufferer with Bright's disease or arteriosclerosis, for instance, will prove highly beneficial. Subjects of high arterial tension can take doses of nitroglycerin which would prove highly deleterious to persons in normal health, there being cases on record in which patients took as much as 100 to 600 minims of nitroglycerin per day, with none but beneficial results. And the tolerance to nitroglycerin increases with the degree of tension.

Iron in a perfectly healthy person—be the preparation ever so unirritating and assimilable—will produce headaches, a sense of throbbing and fulness, and other disagreeable symptoms. The anemic take it with none but good results: their headaches, weakness, palpitation, shortness of breath, anorexia, etc., improve or disappear entirely. In the one case the iron tends to make the normal blood abnormal; in the other, it brings up a blood which is below normal to the normal standard. In the one case it *produces* a congestive *plethoric* headache; in the other case it *cures* an *anemic* headache. Is this so hard to understand? Is not the reasoning logical and supported by the facts?

Another instance. It is a well-established physiological fact that mercury diminishes the number of red corpuscles to a marked degree, thus tending to produce a severe anemia; but mercury administered to a *syphilitic* just as markedly increases the number of erythrocytes and is one of the best remedies in syphilitic anemia (and, by the way, it is upon this fact that Justus' test for syphilis is based). We do not say that the *modus operandi* in syphilis is diametrically opposed to that in health. The explanation of the different action lies probably in

the fact that the mercury has an antidotal effect on the syphilitic poison, the action of which is to produce anemia; by neutralizing the poison, the blood has a chance to become regenerated. But the effect, nevertheless, is quite the reverse from the one seen if mercury is administered in health.

Numerous further examples of the difference in action of drugs in health and disease could be cited. Perhaps the following two or three will suffice. It is a well-known fact that in various conditions of hyperpyrexia, especially if accompanied by adynamic symptoms, patients, even if total abstainers, are able to consume enormous amounts of alcohol in the form of brandy or champagne, without showing the least symptoms of intoxication. One-tenth the quantity would put some of the same people, *when in perfect health*, into a deep, stertorous alcoholic stupor. Whence the difference? In high fevers the metabolism is increased enormously, the alcohol is rapidly burned up in the system and eliminated in the form of carbon dioxide.

Opium in peritonitis is another striking example. It was, we think, Alonzo Clark who first brought forward the "opium treatment of peritonitis." As is well known, the doses he recommended were enormous: 5 grains at a dose, and about 50 grains per day. This treatment has since been followed by thousands and thousands of physicians with alleged excellent results. But it is not the value of the opium treatment of peritonitis that we wish to discuss here. We want only to emphasize the fact that in peritonitis we can give, not only with impunity, but with benefit, doses of opium that would prove positively *fatal in health*. How the opium works in this condition, we do not know. As Wood says, it "exerts in some way difficult to explain a life-saving influence." Somewhat similar is the relation of veratrum viride to the condition of health and to eclampsia—but why multiply instances? He who denies the difference in action of drugs in health and disease, must deny that any difference exists in the conditions themselves. And with those who believe thus, we have no inclination to argue.

[Written for *MERCK'S ARCHIVES*]**SOME ANCIENT THERAPEUTICS**By **Albert Schneider, M.D., Ph.D.**

MEDICINE had its origin in the fetishism, superstition, and religions of ancient savage races. A philosophy common to all ancient peoples and all modern savage races recognizes a soul or something spiritual, a force or energy in all things, whether animate or inanimate. These spiritual entities were essentially of two kinds: those recognized as having a good, useful or wholesome influence, and those of evil tendencies. These contending spirits have ever been the cause of trouble, disease, and death. Disease was supposed to be due to an evil spirit overpowering and driving out the good spirit and taking possession of the body. To rid the sufferer of this demon various practices were resorted to. Loud, discordant noises, horrible odors, threats, and actually subjecting the patient to bodily violence, were thought to induce the evil spirit to quit the body and thus restore health. These are still the practices of the "medicine men" among the American Indians and other savage races and tribes.

The belief in the demoniacal origin of disease was firmly upheld not only by the unlettered class, but also by the ancient scholars; in fact, is far from being disbelieved by many claiming modern education and civilization. During the Middle Ages such belief was quite universal, especially in reference to such diseases as epilepsy, many hysterical manifestations, nightmare, idiocy, and insanity.

The origin and development of ancient medicine is mirrored in Greek and Roman mythology. Greek mythology has it that once upon a time there was a god who took pity upon suffering mankind and who practiced the art of healing among mortals. This god was Æsculapius, the son of Hermes and Coronis. His early life does not seem to have been an enviable one. Born in the vicinity of Epidaurus, he was left to his fate at the foot of a mountain, where he was nourished by a goat and protected by a shepherd dog. Later, Hermes took pity on his neglected offspring and placed him in care of the centaur Chirau, who instructed him in the art of healing. Æsculapius proved a very apt pupil, and soon became such a master that he not only cured the sick and healed the wounded in battle, but also restored the dead to life. For thus restoring life he incurred the wrath of the God of Hades, Pluto, who lodged a complaint with Zeus, the head god, who destroyed the culprit with a thunderbolt. The exact

cause for being killed by Zeus is differently explained. By some it is maintained that he incurred the fatal enmity by daring to restore mortals to life, thus making them practically immortal and equal to the gods, and furthermore being thus instrumental in decreasing the legitimate population of the realm of Hades. Others maintain that he was thus summarily dealt with because he taught mortals the art of healing. Be that as it may, the mortals did not forget their great benefactor, and erected temples to his memory, which were presided over by priests who practiced the teachings of Æsculapius and further developed the healing art. Two sons of Æsculapius, Machaon and Podalirius, were the first noted priests to preside over these temples. The ancients had some very practical notions regarding hygiene and preventive medicine, as is evidenced by the fact that these temples were erected in the most salutary places, surrounded by beautiful trees and supplied with fountains of pure sparkling water. Patients came from far and near to be treated. As is not uncommon in modern medical practice, pay seemed to have been an uncertain quantity, consisting largely of some free-will offerings, as a fowl or a goat. The priest followers of Æsculapius (or As-and cure, were recorded upon a tablet which was hung in the temple for future reference. The priest followers of Æsculapius (or Asclepias, as he is sometimes designated) were known as Asclepiades. While they inherited the healing art, they did not seem to have inherited the generous nature of their tutelary god, for instead of spreading the knowledge of medicine they kept it a secret, thus developing the mysticism of medical priestcraft.

We must not forget to mention Hygeia, the Goddess of Healing, who was the daughter of Æsculapius—according to others, the wife. It was her duty to prepare the medicines as suggested by Æsculapius, and she might therefore be designated as the Goddess of Pharmacy.

From the earliest time there was a close commingling of religion and medicine. Priests had a complete monopoly of the practice of medicine; they established the rules of health and hygiene, and enforced them by making them part and parcel of religious worship and ceremony. Notable instances are still strictly observed at the present time, such as fast days, abstaining from meat on certain days, abstaining from eating pork, circumcision, and other practices. Priests and scholars of the time recognized the fact that freely given advice and moral suasion were not sufficient to



induce the ignorant, unlettered classes to adopt and live up to the necessary health measures; they must be frightened into adopting them by making negligence thereof a heinous offence against religion. Even at the present time it is not unfrequently found necessary to establish sanitary rules and regulations by force of arms or by embodying them in religious worship.

Even in remote antiquity science and religion seem to have been at variance. Aryan and Assyrian priests complained bitterly against the tendency of science and medicine to divorce themselves from religious practices, thus taking out of the hands of the priestcraft a powerful means of overawing the ignorant masses. Mythology shows that the gods of the time made strenuous efforts to keep the mortals in ignorance, for they well knew that with the advent of learning and wisdom their power would wane. Priests, who were the appointed representatives of the gods upon earth, assumed the powers and privileges of the gods so far as it was consistent. They acted as the sole intermediaries between the gods and mortals. They alone claimed the right to interpret the ways of the gods, and like the immortals they sought to keep the mortals in ignorance, because they knew that the power coming with wisdom would overthrow the priestcraft.

The early practice of medicine by the priests was indeed very unscientific, though Assyrian cuneiform inscriptions dating from 1640 B.C. would indicate that attempts had been made to classify diseases and remedies. Treatment consisted largely in an attempt to exorcise the demon of disease by the chanting of litanies and incantations. In the temples of Isis there were priests who devoted their time and attention to the preparation of remedies, as distinct from the priests who attended to the work of healing. The doctor-priest visited the sick accompanied by a chanter of litanies. The chanting constituted a sort of preliminary treatment; subsequently the patient received the medicine prepared by the drug-priest. Similar conditions existed in the temples of Æsculapius.

The religious influence upon medicine exists to-day, though the two are no longer legally associated. The more illiterate classes still have great faith in the healing powers of the priest. Christian science, divine healing, the belief in miracles, pilgrimages of the lame, blind and diseased to Lourdes and other places of miraculous healing, etc., are some of the remnants of the religious influence upon the practice of medicine. After the advent of Christianity

the ancient Greek and Roman gods and goddesses were replaced by Christian saints. In Christian Greece the Virgin Mary was now invoked to cure disease and relieve suffering, instead of Hygeia, the Goddess of Health. In western Europe the holy martyrs, Cosmos and Damian, took the place of Æsculapius in popular worship, and their portraits were frequently found upon the title-pages of medical books.

Medicine as a science made very slow progress. Fetishism, symbolism, and superstition continued to be the main factors in medical practice for many centuries. As late as 1888 an American professor of medical jurisprudence stated publicly that certain forms of mental perversion were undoubtedly due to demoniacal possession. During the Middle Ages all manner of substances and preparations were employed to drive out or ward off diseases. Amulets for warding off the plague, the scourge of the Middle Ages, were numerous. The following description of a very effective amulet is to be found in the Prussian Dispensatory of 1731: "Large old frogs, caught in the month of June, are hung up by their hind legs over a dish covered with wax which has been placed over a moderate fire. After a few days, the frogs discharge horrible fumes and slaver, which attract every kind of worms and flies. These stick to the wax and add their own drivel to the mess. When the frogs are dead, roast and mix them with the carefully preserved wax and drivel and shape this compound into small rolls or imitate the shapes of frogs. One of these is sewn into a cloth and worn in the region of the heart, suspended by a silk thread around the neck. The longer one wears these the more certainly will he be protected from the ravages of the plague." An amulet for epistaxis (nose-bleed) consisted of a small bag of red silk filled with frog's ash, moss from a human skull, sea-beans (some sort of snail shell), etc. Moss from the human skull figured very extensively in the medicine of the Middle Ages. During these periods it was customary in Europe to leave executed criminals hanging from trees along the roadside to serve as horrible examples to others. In time the clothing and tissues fell away, leaving only the skeleton, and in the course of several years a species of lichen (*Usnea barbata*) would develop upon the skull, which was known as *Usnea cranii humani*. This was largely imported from Ireland, as that country evidently yielded the largest tree-crop of executed criminals.

Signs, heavenly and physical, emblems, talismans, mystic signs, words and formulæ,

positions of the stars and planets, etc., all had their significance in medical practice. Instead of giving a fever patient a dose of quinine, he was given a verse from the Bible written upon paper. Or, the paper to be swallowed contained merely some hocus-pocus signs, or some meaningless jumble of letters, as "Ahracadabra." The notorious and famed Paracelsus was much addicted to the use of the "magic square," which was ruled into a number of smaller squares, in each of which was placed such a number that the sum of any row or diagonal was constant. These magic squares were made of some metal according to specific detailed directions; for instance, "on a Saturday, when the moon is entering the constellation Taurus or Capricornus and the planet Saturn is in motion." When completed it must be inclosed in some specified kind of cloth or silk and worn about the neck. "It will insure good luck, good health, and make the wearer proof against accidents of all kinds."

The popular belief that the earth and all it contains—nay, the entire universe—was created for the exclusive benefit of man has left its imprint upon the practice of medicine and has led it into queer channels. Substances were employed not because of their physiological action, but because of an imaginary sympathetic relationship to the disease, as indicated by structural or other characteristics. For example, it was concluded that liverwort (*Hepatica triloba*) was specially created for the cure of liver disorders, because the leaves have the shape and color of that organ. Viper's bugloss or blue weed (*Echium vulgare*), whose flowers show some resemblance to a snake's head, was a sure cure for snake-bite. Again, the serpentine form of the root or rhizome was an indication that it was intended for snake poisoning, as Senega snakeroot (*Polygala senega*). Celandine (*Chelidonium majus*) was looked upon as a special gift from heaven, as the yellow flowers and yellow sap showed conclusively that it was intended for the cure of jaundice. Curcuma root and the lichen *Physcia parietina*, besides other plants, enjoyed similar reputations because of a yellow coloring substance contained in them. Ramson, a species of *Gladiolus*, with its swordlike leaves, demonstrated that an all-wise providence had especially designed this plant to render man proof against wounds or death upon the battle-field. The knights of old were wont to carry the roots under the steel armor, believing that they were thus not only protected against wounds and death, but also assured of victory.

Superstition has ever been a most potent factor in popular medical practice, and forms the basis of the methods of quack doctors. Persons of considerable intelligence and experience are known to carry a potato or horse-chestnut in the pocket to cure rheumatism. In Ireland the peasants swallow live spiders to cure certain diseases. To this habit is traceable the spider-web pill of New England. In Flanders a live spider is inclosed in an empty walnut shell, worn about the neck. When the spider dies the disease leaves the body. The tarantella, a popular Neapolitan dance, had its origin in the belief that it was a sure cure or preventive for a form of insanity supposed to be due to the bite of a species of spider. The peasants of the Black Forest bury the roots of *Victorialis longa* and *V. rotunda* under the doorsill to banish witches and the demons of disease. The Hartz mountain peasants, being unacquainted with the terrible microbe, believe that blue milk is due to the influence of witches. To protect the milk a wreath is made of the blue-eyed ground ivy (*Glechoma hederacea*) and on "Walpurgis" night, when the witches from all quarters are on the rampage on the Broeken, the cows are milked through this wreath, thus rendering the milk immune against the "blues" for the coming year. Some trees were supposed to be effective in absorbing or warding off diseases, particularly the elder, since Judas was supposed to have hanged himself to this tree. An infusion made from the leaves was said to cure fevers. In North Germany a fever patient goes to an elder tree and in suppliant tones says:

"O beloved elder tree,  
Of my fever set me free;  
Since Judas false from you did hang,  
I give to you my feverish pang."

A twig is then broken from the tree and planted in the ground, whereupon the fever supposedly leaves the body and glides like lightning down the twig into the earth.

Most of the effective practice of medicine has ever been based upon experience, or theorization based upon experience, rather than upon sound scientific principles. It is undoubtedly true that the experiences of many are very valuable, and the deductions that may be drawn therefrom are quite reliable, but if this experience is not supported by scientific evidence and proof it is apt to branch off into some form of dogmatism and quackery. The ideal school of medicine should indeed be based upon theory, but the theorization must be sound; that is, it must be in perfect accordance with the highest available scientific evidence combined

with experience founded on accuracy of observation. Such a school of medicine is now in process of evolution, as is strikingly exemplified in our present conception of microbes in relation to disease and surgical practice.

That the progress in medicine has been slow is very evident from the fact that leading authorities unreservedly admit that it is a science still in its infancy, though it is as old as the history of man. It is true fetishism, symbolism, and superstition are no longer potent factors in the legitimate practice of medicine, and the methods and remedies of ancient medicine are being gradually displaced by methods and remedies in harmony with the modern status of the science. Formerly, wholly inert substances, as insoluble minerals, precious stones in particular, were highly prized for their curative powers. (Indeed, the sparkling diamond still possesses most astonishing persuasive curative powers in certain obstreperous emotional and nervous manifestations peculiar to the gentler sex.) The old-time pharmacist must needs keep in store a variety of medicinal substances hardily to be found in a modern drug-store. For instance, wolf's liver, fox's lung, toothed jaw of pike, rabbit's hair and foot, scorpions, centipedes, toads, lizards, frogs, ashes of swallows, sparrows, etc., besides many substances too disgusting to mention. Think with what trepidation a fat criminal must have passed a drug-store for fear of discovery, since the up-to-date pharmacist had to keep in stock "poor sinner's fat" and oil made from the human brain. Nearly every known plant found a use in treating disease. Some of our most powerful and useful modern vegetable drugs were introduced by the skilled professional poisoners of the Dark and Middle Ages, as belladonna, stramonium, and hemlock. As is known, there were a number of colleges in Italy where poisoning was taught scientifically by notorious adepts.

The present tendency in medicine is scientific. Stricter attention is given to the cause or causes of disease. Preventive medicine or hygiene is beginning to be recognized as of prime importance, and the future physician will be valued as much for his advice to the healthy as for his treatment of disease.

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URINE was at one time considered an important medicine. Urea, the principal constituent of urine, is now recommended as a diuretic and anti-tubercular.

[Written for MERCK'S ARCHIVES]

## THE TREATMENT OF RHEUMATISM WITH ACETYL-SALICYLIC ACID (ASPIRIN)

By C. A. Protin, M.D., of New York City

THE use of the salicylates has proved so unsatisfactory in the treatment of rheumatism in my practice that it has been my earnest desire for years to secure a member of the salicylic acid group which could be employed without subjecting the patient to unpleasant and injurious after-effects. The objectionable features of the salicylates are especially their irritating action upon the stomach and their depressing action upon the heart, as well as headache, tinnitus, and other nervous disorders to which they sometimes give rise. When aspirin was therefore brought to my notice I decided to give it a trial. I found that it had no ill effects on the stomach, leaving the appetite unimpaired. Neither have I observed any bad effects upon the heart or nervous system. Owing to the fact that aspirin has only a slight taste it can be easily administered, being given diluted with sugar and water on a spoon or in milk. As it is insoluble in acid fluids it passes unaltered through the stomach into the intestinal canal, where it is decomposed and absorbed in the form of nascent salicylic acid. Experiments have shown that it is absorbed quite rapidly, and promptly eliminated without irritating the kidneys. The latter fact probably explains why it manifests none of the deleterious effects of salicylic acid upon the organism.

My experience with aspirin has been uniformly satisfactory during seven months' use of the drug. In rheumatic cases it exhibits a marked anodyne influence, and in one instance I noted a distinct antipyretic effect. The following are selected from a number of cases I have studied:

Case I.—A man, fifty years old, had had six severe attacks of articular rheumatism previous to the present one. Their course usually ran from six months to a year and a half, and they were always accompanied by severe pain. The chief joints were involved. The patient uses beer to excess.

The attack herein described dated back three months from exposure in the Klondike, where both of his feet were amputated for frost-bite. When I saw the patient the joints of the upper and lower extremities were involved; temperature, 104° F.; pulse, 98; he also had severe cough. I ordered sodium salicylate, 15 grn., in water, four times daily, and hot compresses to the joints; stopped the beer; placed him on a fluid diet, and gave a cough sedative. The following day, there being very little improvement, and the patient complaining of his stomach, I decided to try aspirin. I gave 10 grn. t. i. d., and applied locally ol. gaultheriæ. On my next visit I found the patient quiet, having had some sleep. The temperature was 101° F.; the pain not so severe, and not so

much heat in the swollen joints. On the following visit the pain had subsided; temperature, 99°; swelling was still severe in the shoulder and ankles. The use of aspirin was continued, increasing the dose to 15 grn. four times daily, for a week. When I next saw him all swelling had gone except from the shoulder, and I reduced the dose to 10 grn. three times daily. The movement of the joints was good. I advised application of lin. chloroformi. A week later I was called hastily to him and found him suffering from another attack. He had gone on a drinking bout. This time both the shoulder and knee were affected. I ordered aspirin 20 grn., t. i. d., and at the end of four days all swelling had disappeared. The patient said he never was so free from pain, had less heat in the joints, and no trouble in regard to his stomach.

Case II.—Male, aged twenty-eight years, had had two previous attacks of articular rheumatism, the fingers of the left hand being bent out of shape. He used beer to excess. When I saw him his elbow and knee-joints were affected, in addition to which he had an acute attack of gonorrhea. I put the patient on aspirin, 15 grn., t. i. d., hot compresses locally, and fluid diet. Owing to pain I gave morphine,  $\frac{1}{4}$  grn. hypodermically. This treatment was continued two days, and as the swelling was not reduced to any great extent I increased the dose of aspirin to 20 grn., four times daily, which I continued two days longer. When I saw him the swelling was reduced; the pain was gone, and he had none of the gastric trouble which so often accompanies the administration of the salicylates. I then placed the patient on treatment for the gonorrheal discharge, and in three weeks I discharged him as cured.

Case III.—Man, forty-four years of age; this was his first attack of articular rheumatism. Swelling and heat in both joints; pain severe, particularly on movements of the parts. Temperature, 101° F. He suffered greatly from thirst and used beer habitually. I prescribed aspirin, 15 grn. in milk, four times daily, put him on fluids, and applied hot applications to the parts. The next day the pain was much less severe, but the articulations were still greatly swollen. I also had great difficulty to keep the patient on a fluid diet. The dose of aspirin was increased to 20 grn. four times daily, with hot applications to the joints. On the following visit I found the patient resting quietly; temperature, 98.8° F.; pain slight, and swelling diminished. I then reduced the dose to 10 grn., continuing for a week, when all symptoms subsided.

Case IV.—Man, aged twenty-six years, second attack of rheumatism, always accompanied by great pain. The patient used wine and beer liberally, and gave a syphilitic history. When I saw the case the shoulder and hip joints were already involved; great pain and swelling were present; temperature, 101° F.; pulse, 96; great thirst. I ordered salicylic acid, 15 grn., four times daily; stopped meat and alcoholic stimulants, and locally used ol. gualtheriæ on cotton bandages. On the third day he complained of ringing in the ears and a dizzy feeling, a bad taste in the mouth, and asked to have the medicine changed. Temperature, 99.8° F.; joints still much inflamed. I decided to try aspirin, 15 grn., t. i. d. The next call I increased the dose to 20 grn. Three days after all swelling and pain had gone, except mild manifestations in the shoulder; temperature normal. I ordered the hot applications renewed frequently and aspirin continued. At the following visit the results were satisfactory to me, and I discharged him cured.

Case V.—Female, fifty-seven years of age, had had numerous attacks of rheumatism, the fingers of both hands being deformed. The attacks were always accompanied by great pain. She greatly feared the salicylates, owing to the weak condition of her stomach. An aortic murmur existed. When called I found the back of the neck and both ankles swollen and inflamed, and the patient in a very weak condition. I ordered aspirin, 10 grn., t. i. d., hot compresses, strychnine,  $\frac{1}{16}$  grn., hypodermically, and milk and whiskey internally.

At the next visit to her I found her very nervous; she also had a diarrheal attack, for which I had treated her before, so I gave the following:

Plumbi acetatis ..... grn. iss.

Pulv. opii ..... grn. ss.

M. et fiat pil. No. i.

Aspirin was continued, and the next day the pain was greatly relieved; the swelling had diminished; diarrhea stopped, and the patient was in a better condition generally. At the end of eight days all symptoms had subsided. Patient was grateful for her recovery, and said that the pain and gastric disturbances could be considered as nothing when compared with previous attacks.

In my experience aspirin shortens the course and severity, and relieves the pains in rheumatism. It does not act as the salicylates do on the stomach, and does not produce tinnitus or headache. It seems to reduce temperature, and has no bad effects on the heart or nervous system.

[Written for MERCK'S ARCHIVES]

## TREATMENT OF TYPHOID FEVER

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THERE is no question in my mind but that there is such a thing as mixed infection in this disease. We can find in some cases both the bacillus of Eberth and the plasmodium of Marchiafava and Celli. Therefore, in the treatment of such conditions we require quinine, while in ordinary typhoid fever quinine is not indicated, except that in the convalescent stage we may give it as a general systemic tonic. Again, there are cases of enteric fever which in many instances present a condition without a marked rise of temperature; it is manifest, therefore, that these cases do not require the fever-reducing agents so urgently needed in other cases. In cases having hyperpyrexia we must use antipyretics, the Brand's baths in hospital work, and sponging in private practice. The Brand method is not convenient in private work, nor is it expedient. The rapid sponging of the surface with vinegar and water, alcohol and water, or cold water alone, oftentimes works wonders in the rapid reduction of the temperature, to the extent frequently of from 2° to 3°. If we

are to use medicinal antipyretics, which is the best one? I think acetanilid is superior to all the others. It is not only valuable as an antipyretic, but is an analgesic of conspicuous worth in relieving the abdominal pain (when present), and especially the cephalalgia, which is often a source of great discomfort. It may be administered as follows:

Acetanilid .....	7	grn.
Caffeine Hydrobromate.....	1	grn.
Sodium Bicarbonate.....	2	grn.

For one dose, either on the tongue dry, to be washed down with water, or given with whiskey. This amount may be administered twice or three times in the twenty-four hours.

Give mild mercurous chloride in  $\frac{1}{4}$  grn. doses every hour in combination with sodium bicarbonate 1 grn., until six doses have been taken, then a saline; the best is magnesium sulphate dissolved in hot water, to which is added a teaspoonful of lemon juice. This is readily taken, and is beneficial unless there is diarrhea. Administered every morning for some days, it will be found useful to the extent of about 2 drams at a dose. When diarrhea is a symptom—that is, if there are more than three or four stools a day—give bismuth in large doses, as it is both sedative and astringent, as follows:

Bismuth Subnitrate .....	1	oz.
Tinct. Opium .....	2	dr.
Syr. Rhubarb and Potassa.....	2	oz.
Cinnamon Water.....to make	6	oz.

Tablespoonful every three hours.

If curds are in the stools, the removal of the milk as an article of the diet will have a great influence in relieving the diarrhea. If constipation is present the saline before mentioned is indicated, or suitable enemata, the latter being very advantageous in removing fetid matter and bacilli from the lower bowel. Colonic lavage is a great desideratum. Some antiseptic may be used with the enemata.

**Antiseptic Medication.**—Many say there is no such thing as intestinal antisepsis, and that the bacilli cannot be destroyed by the administration of intestinal antiseptics. This may be true, but I am of the opinion contrary to this. I am quite convinced that meteorism and tympanites are not nearly so common as before we began the use of this class of remedies. The iodine and carbolic acid treatment advocated so strenuously twenty years ago, has produced good results in my hands. I prescribe them as follows:

Carbolic Acid (Cryst).....	8	grn.
Tinct. Iodine.....	1	dr.
Syrup Lemon.....	3	oz.

Teaspoonful three times a day.

Eucalyptol is also a good antiseptic in this disease; so is zinc sulphocarbonate and guaiacol carbonate; the last-mentioned being also an antipyretic. I like the following prescription very much:

Menthol .....	10	grn.
Guaiacol Carbonate .....	1	dr.
Eucalyptol .....	1	dr.

Divide into twenty capsules. One every three hours.

This is to be put up in ordinary capsules, each one wrapped in cotton to prevent their sticking together, if there should be leakage. This combination seems to have a pleasant effect on the stomach and bowels, there is less nausea and a lessened tendency to the formation of gas. If hemorrhage should occur, give morphine sulphate,  $\frac{1}{4}$  grn., and ergotin,  $\frac{1}{2}$  grn., hypodermatically; ice by the mouth. A bladder filled with cracked ice applied to the ileo-cecal region will oftentimes afford relief, and frequently the hemorrhage will cease with surprising rapidity. Food should be interdicted for about ten hours, and the patient should be kept quiet. If there is a tendency to collapse or heart failure, which is sometimes progressive and attended with fatal results, stimulants are needed: strychnine nitrate,  $\frac{1}{30}$  grn. subcutaneously; perhaps at times ether may be used. If perforation takes place, the abdomen is to be opened and the necessary operation performed. The recoveries average 37 per cent. Sometimes in typhoid fever the normal saline solution, either by hypodermoclysis, or enteroclysis, will be of vast benefit. The cough, so often a troublesome concomitant, will be safely controlled by heroin,  $\frac{1}{12}$  grn. Nervous symptoms are manifestly relieved by the sponging, but frequently bromides are indicated, bromide of strontium being the best. The ice cap is often of benefit. Hypnotics have to be used in many cases. When one is needed, trional is very satisfactory.

Typhoid fever is sometimes called "nervous fever," because of the preponderance of the nervous symptoms, which may include photophobia, strabismus, meningeal symptoms, delirium, perhaps mania, hyperesthetic zones simulating neuritis, hysterical manifestations, stupor, apathy, muscular tremor, sometimes convulsions; all of these symptoms require nervines or antispasmodics. Complications must be treated as they arise, whether pneumonitis, hepatitis, splenitis, nephritis, or what not. Typhoid fever without intestinal lesions is a *terra incognita* to me and I am not yet prepared to accept the dictum that there is such a variety.

**Prophylaxis.**—How does the bacillus of Eberth gain entrance to the economy?

Usually by the alimentary canal, through the agency of the water supply, contaminated milk, dirty vegetables, by flies conveying the bacillus from "latrines" to the food; sometimes through the respiratory channels, as the "bacillus typhosus" is found in the lungs in isolated cases. The dejecta must be rendered harmless. Chlorinated lime in solution is one of the best germicides we have; the strength should be about 5 oz. of the chlorinated lime to 1 gal. of water, and must be in prolonged contact with the feces. The urine and sputum must also be disinfected; water should be boiled, flies kept away from patients and food, and the plumbing looked after. Preventive inoculation with serum seems to have answered happily in a large number of cases in the various armies, and it may answer very well in private practice.

**Dietetics.**—The views of physicians as to the diet in typhoid fever are as varied as the treatment. Dr. Billings, of Chicago, has struck the right chord: "The main principle of diet is to select simple, easily digested food, which will leave but little irritating residue in the bowel. The digestive power of the individual is diminished, and improper food or overfeeding may result in local disturbance of the digestive organs, as well as possible autointoxication." I do not believe, as some do, in giving a patient solid food in this disease. Give plenty of water, egg albumin, beef juice (not *beef tea*), peptonized milk, etc. Dr. Inglis, of Detroit, in an article "On the Dietetic Management of Typhoid Fever," gives milk diet a "black eye." He may be right, but I give milk peptonized, and with most excellent results. I do not believe in overfeeding, but I wish my patient to have some nourishment.

**Alcohol.**—I think the food value of alcohol is *nil*, but we think it to be a conservator of energy, preventing tissue metamorphosis. Cushny says: "It was formerly supposed that alcohol economized the body-tissues in some ill-defined way, by means of a direct action on the protoplasm of the cells; as it was expressed, alcohol lessened the combustion of the tissues." There is no reason to suppose that alcohol in ordinary quantities has any action on the tissues save as a food, for the oxidation of the tissues as measured by the oxygen absorbed and the carbonic acid exhaled is only affected as it is by any other food. Of course, the oxidation of alcohol by the tissues saves fat from combustion, and it is possible that some bodies which would normally be oxidized in the organism may pass through it unchanged in the same way. If alcohol is

to be used as a food, it must be associated with a diet rich in proteids, and in this condition it can replace to some extent the ordinary foodstuffs. I like alcohol in typhoid fever and frequently give egg-nog. Café noir is a splendid stimulant in this condition, and should be used more than it is.

See to it that the patient has two beds, one during the day and the other at night, both furnished with moderately hard mattresses. When cases are protracted there is a tendency to the formation of bed-sores; this condition can be obviated to a large extent by bathing the parts subjected to pressure with equal parts of alcohol and sweet spirits of nitre, two or three times a day. Of course, if sores make their appearance, use the air-bed. Perfect cleanliness is essential.

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[Written for MERRICK'S ARCHIVES]

## AN ESSAY ON OPIUM AND ITS ALKALOID MORPHINE, AND THEIR TRUE VALUE IN MODERN THERAPEUTICS

By Adolfo Laria, Ph.D., M.D., Chicago

(Continued from p. 225, June issue)

### PART B

(e) *Cutaneous System.*—Opium increases the secretions of the skin. In the form of Dover's powder, it is not only a standard diaphoretic, but it has also other valuable effects. However, sometimes opium produces, especially in young children, an itching of the nose and chin, and the solicitous mother is apt to attribute it to worms. Sometimes this itching may extend all over the body, yet in urticaria opium proves to be a valuable adjuvant in its treatment. The explanation of these divergent phenomena is that while the itching of the former is due to a hypersensitiveness of the skin, in the latter case it is a neurosis, and as we have seen, opium does excellent service in all forms of neurosis.

(f) *Muscular System.*—In moderate doses opium has but very little general effect upon the muscular system, but under certain pathological conditions its effect is a very decided one indeed, acting more on the voluntary fibers. In fractures, where the muscular contractility is rigid, an anesthetic is given more to relax the muscles than for the relief of pain. Give opium in sufficient quantities to quiet the nervous system, and by relieving the pain the spasm is likewise overcome. Its antispasmodic effect, however, can to the best advantage be exhibited in spasms of the muscular coat of the intestine. In colic due

to irritation from any cause, whether this occurs in a child or in an adult, it relieves quicker than any other remedial agency of the anodyne group.

The trinity of the action of opium may be defined thus: (1) To relieve pain; (2) to allay nervous irritation, and (3) to overcome muscular spasm.

In hemorrhages from the small blood vessels, it would seem as though opium would relax the muscular coat, and by so acting increase the bleeding; but yet it is the best agency for the treatment of pulmonary or intestinal hemorrhages as well as in those arising from the genital organs. In hemorrhages from the lung, usually the patient wants to spit up or throw up. This increases the agitation, and with it, as a natural consequence, the hemorrhage increases likewise. Many restrict themselves to the use of astringents, but attention should rather be directed to quieting the nervous excitability. Put the patient to bed and regulate the circulation by a hypodermic of morphine, to which may be added bromides by the mouth. Here morphine, without the conjunction of atropine, acts more quickly and better than with it. Ice on the chest and emetics are generally tried before the physician is called, and ergot has probably been administered and resulted in gastric derangement. In these conditions there is no spasm present, but morphine furnishes the lacking nerve tone, by acting upon the sympathetic as well as the cerebro-spinal system. This action is similar in intestinal hemorrhage. Opium here gives relief by quieting the nervous system and arresting the peristalsis. Hemorrhage from the genital organs, if due to ovarian trouble, is controlled by opium, but if arising from a uterine fibroma, ergot is by far the better remedy; but even here, opium in small doses will be helpful and beneficial.

(g) *Genito-Urinary System.*—Here also opium lessens the secretions. Urination is less frequent and the amount is diminished, but diaphoresis is produced and the specific gravity of the urine is higher, while the actual amount of solids remains about the same. Sensibility at the neck of the bladder is blunted, hence the desire to micturate is not so frequent, but when voided the amount is much greater. In many cases of cystitis it is necessary to give an opiate, because here sensibility is greatly increased and there is a great amount of severe pain associated with a frequent desire to urinate. Cystitis is very often met in elderly people, arising from prostatic changes. Acute urethritis is in 90 per cent. of cases of venereal origin. Here the pain is great and

its remote effects are very serious, often producing in women salpingitis. Chordee is one of the most painful accompaniments of gonorrhea in 40 per cent. of the cases. By relieving pain and giving rest, stricture is less apt to occur. There is great frequency in urination, and, if the patient walks about, orchitis may be the result. Therefore, the patient should be placed in bed, and the pain as well as the desire to urinate relieved with opium. But in chronic cystitis, if there is any possibility, it is best to avoid opium, for there is a tendency of the mucus to decompose, which is increased by the retention. Therefore, empty the bladder frequently, but do not give opium, as in this condition there is not enough pain to justify its use. Where an acute or sub-acute case of cystitis is engrafted upon a chronic one, opium is of some value. In renal troubles the position and value of opium is still a matter of controversy. Thirty to forty years ago its use in uremia was considered almost suicidal, because by giving opium the amount of urine was diminished, and the tendency to the accumulation of the toxic products increased thereby.

But now many physicians believe that there does not exist another agent equal to opium, not only in uremic poisoning and coma, but in any uremic manifestations, whatsoever their source may be. Let the symptoms be headache, vomiting or dyspnea, opium is advised. It does not cure the patient by any means, but it relieves the distressing symptoms, gives rest, prevents dangerous complications, and allows the use of other measures tending to effect a cure. In these cases we have to deal with an accumulation of toxic products which the kidneys are incapable of taking care of and carrying off. Their evil influence makes itself felt by setting up an irritation and producing convulsions, coma, and death. It is for this reason that some observers still cling to the belief that in prescribing opium when there is a toxic product already present, you tax the system by adding another; but in my estimation, and in view of the good results exhibited clinically with its use, I believe that opium neutralizes the toxic effect of the poisonous products present in the nerve centers and thereby accomplishes a beneficial direct effect. In giving opium the nerve centers and kidneys are rested and the amount of urine is increased very considerably.

To recapitulate, then, I would say opium is indicated in acute and in early chronic cases. It is not desirable to exhibit it in advanced stages, except where an acute or



subacute case is engrafted on a chronic one. The appearance of convulsions and coma in a chronic case of kidney disease, where the organs are already degenerated, must be interpreted to mean that the end is at hand. Then the pulse is rapid and feeble, the heart's action is weak and not bounding. Of course, by giving opium you may relieve the convulsions only to send the patient into a deep coma, which will end necessarily in death.

Shall we use opium in peritonitis? Surgeons and laparotomists tell us not to use opium in peritonitis, because by its use the starting-point of the disease is obscured and the symptoms masked, so as to render surgical interference futile. On the other hand, other good practitioners use it freely. In my judgment, the best plan for every line of treatment is, and I may say always will be, the middle ground. Take to the middle of the road and avoid extremes. In peritonitis we are justified in relieving pain and giving rest, but we should take great care to avoid obscuring the case. The arguments for the use of opium may be summed up as follows: The patient suffers severe pain and is laboring under shock. Every movement of the intestine adds to the pain, every breath also, and from reflex irritation there is a tendency to vomit. Now, opium overcomes the shock, relieves pain by blocking up the bowels, and it furthermore enhances free breathing and relieves the vomiting. I am in the habit of giving opium for such cases in small doses in conjunction with a saline cathartic, as clinical experience has shown that some natural movement of the bowel is not undesirable. Use only sufficient opium to keep the patient comfortable and enough of the cathartic to cause one or two evacuations per day. This gives very gratifying results in even the most serious cases, holding the patient's reserve force better in shape, even if laparotomy is desired. Opium quiets the nervous system, it relieves the pain and prevents some of the shock, and its use according to indication is growing in favor. But care should be used not to narcotize the patient. Watch the pupil closely and do not allow the respirations to fall below 16. The exact amount of the drug to be given is very difficult to fix. The best rule is to impress upon one's mind that the gravity of the condition to be contended with must govern the dose. It should best be given hypodermically, as very often the peritonitis extends over the region of the stomach and to the agony of pain and the other grave symptoms vomiting is added as a serious concomitant. I

am in the habit of continuing the dose for a week or eight days after the attack has subsided and the patient appears to be cured, in order to forestall relapse.

Now let us consider biliary and renal colic. Here, the great indications for the exhibition of opium are not met with—the most exquisite pain associated with marked shock is present. Opium, if given, will not only relieve the pain and vomiting, but it will sustain the patient to overcome the muscular spasm. It takes but a very small dose to produce a very markedly acute spasm. It may become impacted in the duct, and if opium be continued it may blunt the sensibility, which we should carefully avoid. Another danger, when the calculus is passed the tolerance for opium disappears and the patient is apt to pass into coma; therefore, use atropine hypodermically in conjunction with the first and second dose of morphine, thus helping to overcome the spasm and pain and lessening the danger of narcotism.

(h) *External Application.*—Through the unbroken skin opium or morphine is not readily absorbed, and local applications containing it, such as lead and opium wash, or poultices with laudanum, etc., have but little effect. Good observers, however, use them more for the impression they are apt to make than from an expectation of deriving a clear therapeutic effect. Oleate of mercury and morphine often relieve painful and swollen joints and synovitis not of rheumatic character. Morphine is also of some value applied externally in acute gout. As a rule, morphine is much more generally and extensively used hypodermically than in any other way, and administered thus, its effects and results exert their physiological action much quicker than by any other method. Often patients suffer from disorders of the alimentary canal, making it unwise to administer the drug by the mouth; and they may object to rectal administration. Here the hypodermic syringe plays an important rôle. Morphine, as all other alkaloids, acts more rapidly when so given, and, according to many good observers, the dose thus needed is only one-half the amount that would be needed by mouth. Sometimes the moral effect is greater if the injection is right over the seat of pain, and the astute practitioner will yield to the patient's wishes on these minor points. In acute sciatica the pain extends along the entire course of the nerve, and as acupuncture near a nerve often gives relief, the needle should be plunged deeply into the tissues of the gluteal region, to get the effect both of the acupuncture and of the drug.



(i) *Incidental Effects and Idiosyncrasies of Opium.*—As I have already stated, children and the aged are very susceptible to the exhibition of opium or morphine, but idiosyncrasies may occur at any age, as the following case will illustrate:

R. S., a young man twenty-five years of age, consulted me for gastritis. He gave a history of very severe pain, headache, and nausea, but no vomiting, the attacks lasting for some time and being of an especially distressing nature after meals. He only wanted to be speedily relieved of his pain. I prescribed for him: Powd. opium,  $\frac{1}{2}$  grn.; lead acetate,  $1\frac{1}{2}$  grn., given in the form of a pill, and directed him to take from two to three pills three times daily. The next morning the patient presented himself in a very distressed condition, complaining that not only did his pains become no better, but his tongue and fauces were dry, his voice husky, and all over the body he was covered with a miliary eruption, resembling the bites of a mosquito, red in the center and with white areola or border, of a very itching character. He had only taken two pills at intervals of five hours, and he claimed that a half hour after taking the first pill the first disagreeable symptoms made themselves felt, while the eruption came out during the night. Thirty grains of resorcin to an ounce of cold cream gave relief in a few hours.

On the other hand, Walter F. Bogess<sup>22</sup> reports that he saw a child nine months old, very small for his age, as he only weighed eight to nine pounds, but bright and well nourished, to whom for six months the mother was in the habit of administering laudanum in doses of from 4 to 20 drops five to six times daily, so that during the twenty-four hours the baby took an average of  $\frac{1}{2}$  to 2 drams. When under the influence of the drug the child was very bright, but during the interval it was peevish and fretful. The drug was gradually withdrawn and the child made rapid recovery.

(j) *Acute Morphine Poisoning.*—A speedy recognition of acute morphine poisoning is not only necessary from a practical standpoint, but it is a most desirable feature from a medico-legal aspect, as cases are on record where failure to recognize early a case of acute morphine poisoning brought suit on the practitioner for malpractice.

When sufficient opium has been taken to produce poisoning, there are certain conditions present which are almost peculiar to it: (1) There is contraction of the pupil; (2) the number of respirations is markedly diminished; (3) profound insensibility.

If called to see a patient and you find him in deep coma, with both pupils contracted evenly and breathing slowly, the presumption will be that the case in hand is one of opium poisoning. Other features, not characteristic, however, that will attract your attention, are cold skin, clammy perspiration, and cold extremities. The pulse may be fast, slow, or even normal. Usually there is no change at the beginning, but toward the end it becomes fast. The leaden hue of the countenance cannot always be depended upon. There are three pathological conditions that closely resemble and may be mistaken for acute opium poisoning, to wit, alcoholism, uremia, and apoplectic coma.

In alcoholism or alcoholic coma there will be the odor to guide us, as there is always an odor of alcohol present in alcoholic poisoning. But this is not of particular value. The odor, if patient has swallowed laudanum, for instance, may be derived from the alcohol that it contains, or the patient may have taken alcohol before he took opium, and then we may have the occurrence of both conditions at the same time. In opium coma without stertorous breathing the respirations are full but fewer in number. In alcoholics the coma resembles sleep and the respiration is superficial as a rule. The pupils in alcoholics are not contracted, except in severe cases of chronic drinkers who, besides, suffer from pachymeningitis. But these persons are not apt to get opium. If the case of alcoholism in hand is that of a neophyte in the field, his pupils are apt to be dilated, but the respirations never fall so low as in the case of opium poisoning. Besides, the alcoholics you can arouse from their coma. Rarely will a sharp word or shaking fail to bring a grunt or a mumbling in answer from the patient.

In uremic coma the pulse of the patient is fast, and there is, as a rule, a history of precedent convulsions. These occur in opium poisoning also, but only in very rare cases. If the urine can be obtained, examine it for any indications of renal disease. If edema of the lower limbs is present, this will help materially in deciding an obscure case.

In apoplectic coma, there is a diminution in the number of respirations and pupils are equally contracted only once in about one hundred cases. Here electricity offers itself as the best of all tests. Apply it to the phrenic nerve in the neck, and if the coma is due to acute opium poisoning you will get a response from the diaphragm; but if, on the other hand, it is due to apoplexy, no reaction whatsoever will be manifested.

In carbolic-acid poisoning the pupils are contracted, but there is present marked delirium, a dark-colored urine, a staggering gait, and evidence of the acid will be seen on the tongue or sides of the mouth, unless it was taken through a glass tube, as was done by a young nurse and patient of mine to avoid the external signs of burning; and there is the marked carbolic acid odor, unless the acid has become already absorbed from large cavities. This condition, however, is very easy to recognize.

To recapitulate, we may say that, in the absence of any positive history of the mode and manifestation of the symptoms, the diagnosis of opium poisoning is attended with difficulties. The main features in morphine or opium poisoning are a gradual onset and increasing stupor, with headache and dryness of the mouth. Within thirty minutes after the poison has been taken the stupor usually appears. In the beginning the patient can yet be aroused and made to answer questions, but if left alone he merges into his stupor that becomes deeper and deeper, until the patient is no longer capable of being aroused. Having reached this stage, his pulse, which at first was small and frequent, assumes a fuller volume, but the beats are fewer in number. The breathing may exhale an odor of opium, is slow and of stertorous character; the features assume a leaden pallor and the skin is clammy and perspiring. Towards the end, when the case takes a fatal issue, the muscular relaxation is complete; the pulse at this stage is irregular in character, the breathing slower, but the stertor more pronounced, and the interval between the respirations greater and greater. The features become livid; at times also cyanotic; with every evidence of asphyxia, and occasionally the pupils become dilated to a maximum as in chloroform poisoning. When this sign occurs, you may prognosticate a fatal termination. If the quantity of opium taken has been very great, vomiting may be present with the early stages and convulsions are by no means a rare occurrence.

Now, what are we expected to do for a case of acute opium poisoning? Where coma, contracted pupils, and a respiration below ten is found, do not begin with too small doses of atropine; but first of all, empty the stomach if possible. The use of emetics is of more value in theory than in good ordinary practice, because of the difficulties attending such a procedure. The question that confronts us here is, how can we introduce the emetic into the stomach, and after it is there, how can we make it

be retained and absorbed quickly to produce a rapid effect? It is not safe to give apomorphine, and the introduction of the stomach pump is beset with more than one difficulty; nevertheless it must be attempted. If the drug has been swallowed with intent, the patient will struggle against any attempt to save him so long as consciousness lasts. If taken unintentionally and zinc sulphate be at hand, give 10 to 15 grains of it immediately. If zinc is not at hand, mustard and warm water, or salt and warm water, will do. If vomiting cannot be induced, prepare the patient for the tolerance of the poison.

Death from opium poisoning results from paralysis of the respiratory center; therefore, the greater the stimulus to this center, the better the position patient is placed in to resist the toxic inroads of the drug. Now, the best respiratory stimulant at our command is, by all means, atropine. The first dose should be  $\frac{1}{15}$  or  $\frac{1}{12}$  grn., and still higher doses have been administered; but this is not safe. Still, the danger from belladonna poisoning is not one-half as great as it was formerly supposed to be. If the symptoms are not controlled within one hour, repeat by giving an injection of  $\frac{1}{30}$  to  $\frac{1}{25}$  grn. of atropine. If you can keep the respiration up to fifteen per minute, you may be certain your patient will recover.

Another means of keeping up the respiration is by the use of the faradic current. Place one pole over the phrenic, the other in the region of the diaphragm. Every time you close the circuit there will be a responsive breath. Keep the number of respirations up from 12 to 14. You will then notice that the color will change in quite a perceptible manner. This treatment must oftentimes be kept up for six hours, when Nature herself will reassert her powers and carry on her functions. In using the faradic current, place one pole on the right phrenic nerve and the other on the border of the ribs and also on the right side. The reason for this is that some fear cardiac paralysis might ensue from the electric shock, if the poles were to be placed at the left side. Cases have recovered by this plan of treatment when there were but two respiratory movements per minute. If the patient is able to swallow, you may give him coffee, but usually this is impossible until patient has partially recovered. Then it is unnecessary, but caffeine salicylate can be advantageously used hypodermically. However, atropine is the drug to be looked for. A cup of strong coffee, clear, in the morning after the use of opium at night,

even in medicinal doses, has a brightening effect upon the system.

I have no words of condemnation strong enough against the orthodox, old-fashioned method of treating opium poisoning. This method consists in making the patient walk between two strong, muscular men, after the patient's muscular co-ordination is lost, and of beating the patient's extremities with knotted towels and switches. This method is cruel and barbarous. Then, by this "method," even if the patient recovers from coma, shock may follow, and in forty-eight to seventy-two hours afterward a fatal pneumonia may develop. In following the faradic current treatment, however, no such danger is threatened. Elevate the patient's shoulders and roll him from side to side, so as to prevent hypostatic congestion. A moderate amount of faradic irritation applied to the hands and feet of the patient is of value at times.

After the effects of the opium poisoning have passed away, there remains the after-effect of atropine, due to the slow elimination of belladonna from the system. Delirium may follow, and last as long as forty-eight hours. Treat these with bromides and on the second night give chloral.

As a rule, the majority of cases of acute opium poisoning do recover if properly treated unless some vital organs are affected. C. W. Williams<sup>28</sup> has used cocaine successfully in a case of opium poisoning. From the fact that opium retards respiration, while cocaine accelerates it; that opium slows the circulation, while cocaine accelerates it; that opium checks the secretions, while cocaine increases them, and opium contracts the pupils, while cocaine dilates them—he concluded that cocaine would be a good physiological antagonist to opium. He injected the cocaine hypodermically in  $\frac{1}{4}$ -grn. doses, at first in combination with apomorphine and strychnine, and then with small doses of potassium permanganate. He repeated the injections two or three times and recovery followed; but it is a question in my mind whether the good results were attributable to the effects of cocaine alone, or whether they were not shared largely, if not wholly, by the strychnine and potassium permanganate that were given in combination, as both of these remedies in themselves are well known powerful antidotes of opium, as the case of R. D. Pennefather illustrates. In one case the latter gave  $\frac{1}{50}$  grn. of strychnine hypodermically, and almost immediately the muscles of the face and arms twitched, the patient opened her eyes, and when sufficiently aroused she was made to swallow a pint of strong coffee.

There was some difficulty in keeping her awake for several hours. She made rapid recovery and admitted having taking 50 min. of laudanum, as she had done frequently on former occasions.

Dr. Moor, of New York, has made extensive observations on lower animals and upon himself, with potassium permanganate, and he found that the action of 3 to 4 grn. of morphine sulphate can be overcome, if double the amount of potassium permanganate is swallowed simultaneously or shortly after having taken the drug. This has been confirmed by Carpenter in a case where both drug and antidote were given hypodermically and simultaneously. Personally, I have had no experience with it. In my estimation nothing equals atropine, although I am fully aware that it is a dangerous remedy, but if exhibited cautiously and judiciously, I consider it to be as safe as any opium antidote.

Murell has estimated that  $\frac{1}{80}$  grn. of atropine antagonizes 1 grn. of morphine. Wood recommends the injection of atropine hypodermically in doses of  $\frac{1}{40}$  grn. every fifteen, twenty-five, or thirty minutes. I prefer to inject right in the beginning  $\frac{1}{12}$  grn. and make a good impression, and then wait for an hour or two hours. For infants the preparations of belladonna are far safer to employ than the powerful alkaloid atropine.

(k) *Chronic Opium and Morphine Poisoning, or the Morphine Habit.*—Having so far spoken of the good and beneficial effects of opium and its derivatives, we come now to the darker side of the story—the opium or morphine habit.

The Pravatz syringe, or hypodermic needle, is both a blessing and a curse. Many of us are prone to turn over the needle into the hands of patients, and instruct them in its use. Not every one of us is careful or considerate enough to pause for a moment and reflect on the consequences that may result from intrusting the hypodermic needle to patients, with the result that many morphine habitués accuse and curse the physician as the one at whose door the blame is to be laid. I have not seen one patient in whom the morphine habit was established who did not blame a former physician for it. While I never accept the statement of a morphinomaniac, and while such a broad statement is, fortunately, in the majority of cases, not true, yet a grain of truth is hidden in it. At a meeting of the New York State Medical Association, Dr. T. D. Crothers<sup>29</sup>, of Hartford, openly declared that at least 10 per cent. of our profession is secretly addicted to the use of

morphine. I do not know the exact percentage, but the number of professional brethren with whom I come in contact who indulge in this drug is quite large.

Now, what are the causes? Is it the over-taxation of professional care? Is it the sharp competition? Is it a lack of will power—a hereditary taint that produces this neuropathic condition? It is remarkable and noteworthy that its most inveterate slaves are to be found among the higher, finer and most intelligent of the educated classes, and in these classes authorities all recognize the loss of physical and mental power, but some are not ready to include also the moral. But the history of many cases proves beyond doubt that such patients are incapable of telling the truth, not only in regard to procuring opium, but everything else. It makes them shrewd and cunning, and while they express the desire to overcome the habit, and pretend to have given it up, they go on with its use relentlessly just the same. I would not believe a morphinomaniac under oath. To better illustrate, I will relate one peculiar case of the many under my observation.

I had under my care a refined, beautiful woman, highly educated and accomplished, but addicted to the use of morphine. This blot upon her character rendered her domestic relations very unhappy. She had a loving husband and children who adored her, yet when under the influence of that accursed evil her home was nothing short of Dante's Inferno. In vain her husband begged her on his knees to desist from the use of the drug, or in a fit of passionate, ungovernable anger threatened to forsake her. She cried, begged, promised to give it up. She struggled, and struggled hard as I know, but all to no avail. When I took a hand in the treatment, she had already been graduated from a gold cure institution for the third time. I am afraid she will have to graduate a couple of times more. It has cost her husband a fortune. Radiantly she and her husband came to me and related that now, surely she was cured. She knew she was. The gold doctor had assured her so and she meant to forsake opium forever. Still, for rest and treatment, she was ready to place herself under my care and go to a sanitarium where, at that time, I was the medical superintendent. For two weeks all was well and she begged me to allow her husband and children to come for a visit and remain over Sunday with her. I acquiesced, as I saw nothing wrong in it. Monday morning, she begged Dr. Bruel, my assistant, during my absence, to allow her to accom-

pany her husband and children to town. She promised earnestly to be back on the returning train. She kept her promise. The whole day she was pleasant and cheerful. At supper she was bright and took part in the conversation, but at eight o'clock she begged to be excused and allowed to retire, as she felt somewhat tired after the excitement of the past two days. One-half or three-quarters of an hour later I was hurriedly summoned by the head nurse to go up to the lady's room. She had just passed her door and had heard her breathe stertorously. We hurried up and found her lying in a comatose state from an overdose of opium. We had a hard time to pull her through. She rallied, however. I inquired where she got the drug. She denied having taken it. We searched every inch and nook of her room to find any trace of the drug, but none was to be found. Finally, a new pair of shoes that she claimed to have bought that day in town attracted my attention. I inspected them closely, and under the cork sole found concealed at least four drams of the drug, while a goodly portion she had already used up.

Her love for the cursed drug made her lose all self-respect, all moral sense, and needless to say she is yet in the clutches of the morphine habit. Once a morphinomaniac, always a morphinomaniac. Out of the great number of morphine habitués, I have yet to see one who had enough will power to be cured.

Let us now see how the effects manifest themselves. At first, in a few, it acts as a stimulant, but De Quincey's best works, contrary to his own statement, are the ones he wrote before the morphine habit was formed. Morphine never stimulates the mental faculties. There is a short period of exaltation which soon gives way to a sort of despondency, headache, and vertigo. The condition of the patient resembles the picture of a dyspmaniac. By and by the habitués become careless in habits. The avidity to use the syringe oftener and oftener leads them to forget all precautions. The syringe is not cleaned and septic inflammations, abscesses, and erysipelas, are not infrequent. The later effects are degenerative changes, such as fatty heart, liver, kidney, and increase in flesh, of a flabby character; after the loss of will power, death not infrequently ensues.

In the beginning, some try hard to break away. If nothing else, the nausea and vomiting scare them, but they return to the drug with increased eagerness, and the initial effects once overcome, they cling to the drug tenaciously. This period is of variable du-

ration. In some it lasts for a few weeks, while in others it lasts for months; but gradually the muscular spasm, as mentioned, becomes weaker and weaker, whereby the striated as well as the non-striated muscular fibers become involved. Thus, obstinate constipation and dyspepsia are caused, but at times there is vomiting and persistent diarrhea, and the latter cannot be arrested except by opium. This is of ominous moment. A fine, peculiar tremor, similar to the one that characterizes alcoholics, is present. The general sensorium is affected. Vertigo and neuralgia of various types are of not infrequent occurrence. Vision, smell, and hearing, as all other special senses, are perverted, and the pupils are contracted; but the refined opium fiend, when on probation, knows all the tactics of his art, and he can conceal his symptoms by regulating the amount he is taking and by using atropine or belladonna.

Anorexia, with dry tongue and great thirst, follows, and the hydrochloric acid in the gastric juice diminishes. The secretions of the intestinal glands and bile are also diminished. The fecal masses are therefore clayish in appearance, and with the impairment of nutrition, loss of flesh follows. Around the ankles and knees edema of a moderate degree sets in, the skin becomes rough, and all the sweat glands, with the exception of the sebaceous, which diminish their activity, become more active. Various eruptions and furuncles appear and cover the body. The urine, as a rule, is unaltered. If albumen or glycosuria is present it is not, probably, due to the effect of the morphine. The sexual desire is diminished and even complete impotence may result. The sexual excitement that sometimes follows a morphine injection is only of temporary moment. With the female, amenorrhea is quite common. Physical changes are quite common in greater or lesser degree. Patients become morose. Their memory and power of volition is often entirely obliterated. Hallucinations occur, and even the passing off into a state of paranoia is not of rare occurrence. The number of respirations is diminished, yet some may take 25 grn. of morphine per day, and yet show no respiratory symptoms while awake; but let them keep quiet only a few moments and they will fall asleep, and the respiration will just as quickly fall to about 14. When morphine is withheld for only twenty-four or forty-eight hours the sufferers are wretched and restless, having eructations, vomiting, and diarrhea, suffering severely from the cravings for the drug. The nasal and bronchial secretions increase. Hoarseness and pro-

nounced mydriasis, headache, severe neuralgia, hyperacidity, and colicky pains are the train of grave phenomena, even may end in total collapse, from which a hypodermic of the beloved drug eventually arouses them. Cachexia is the ultimate stage of the disease. Hysteria is a most common complication, usually during the period of primary abstinence. Insomnia rarely is concomitant, except there be a predisposition to alcoholism, cocaine, ether, chloral, which are often tried as substitutes, with the result that instead of being addicted to one drug, a double or multiple habit is established.

Prognosis as to a cure, as I have already expressed my view, is, in my estimation, as good as nil. Prophylactic treatment should consist, first, in enacting stringent laws to the pharmacists, prohibiting altogether the sale of narcotics of any kind without the prescription of a physician, and this on recent prescriptions only, rendering it impossible for the fiend to procure the drug easily. Stringent laws, but laws that are upheld and enforced, are, in my estimation, the best policy in prophylactic treatment. Then appeal to the patient's will power. If this is gone, all attempt is futile. Place your patient in an asylum, the only rational and beneficial place for him, and see what can be done for him. Sudden withdrawal of the drug is not advisable by any means, but the quantity can be daily withdrawn, and this is dependent upon the amount that the patient is in the habit of taking. About  $\frac{1}{8}$  to  $\frac{1}{4}$  grn. should be withdrawn daily in the beginning. Alcohol and antipyrine are of but temporary service to lessen the cravings during the first few days of the treatment. A formula that is of some benefit in 20-min. doses, administered hypodermically four times daily, is as follows:

Strychnine Sulphate.....	$\frac{1}{4}$ grn.
Hydrastine Hydrochlorate.....	6 grn.
Sparteine Sulphate.....	3 grn.
Atropine Sulphate.....	$\frac{1}{8}$ grn.
Water.....	to make 1 oz.

The gold preparations are of but questionable value. Lavage is useful. The electric bath as recommended by David Paulson<sup>25</sup> may be tried with advantage, but above all, guard the patients from relapses, which are by all means too common, and by so doing you will have done all that is to be done for the patient.

(1) *Opium in Surgery*.—If given in  $\frac{1}{4}$ -grn. doses, half an hour before general anesthesia is induced, opium is of great value, as it prevents the nausea and vomiting so commonly met with after chloroform or ether narcosis. After the operation, to control the pain, which is severe, and to keep

the patient quiet and rested, it is well for the first two days to give a little opium in some form. Thus you place your patient in a better position to react to the after-effects.

**Conclusions.**—My aim has been to show the wide range of the applicability of opium and its derivatives in modern therapeutics, in a practical way, for the benefit of the general practitioner.

Opium is a potent factor in the healing art, if, as I said in the beginning, its range of usefulness is judiciously considered. Without opium, without digitalis and a few antiseptics, I would not care to be a doctor. Without opium and its alkaloid, in many a critical moment we would be simply powerless. With opium as a weapon, we are in many a case heroes and conquerors. The real position of opium in modern therapeutics is, in my estimation, at the top of the ladder. If, through this little essay, I shall have succeeded in clearing away some fears or some prejudices that seem to exist against the scientific administration of opium, I shall feel myself well repaid for my labors.

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## THE VALUE OF VERATRUM VIRIDE IN VARIOUS CONDITIONS OF TOXEMIA<sup>1</sup>

By A. B. Isham, M.D.

VERATRUM VIRIDE is an antiquated remedy and its employment is considered by most physicians to be somewhat anachronistic. Nevertheless, the remedy has certain potent qualities, and Dr. A. B. Isham has found it valuable in toxemic conditions. He reports six representative cases of peritonitis following appendicitis, in which veratrum viride gave unequivocal results.

Case I.—W. B., married, aged forty-two; presenting symptoms of appendicular inflammation with general peritonitis. Veratrum viride, 8 drops every two hours, administered and continued until free perspiration, nausea, and lowered pulse-rate gave evidence of its effects, when the dose was reduced to 4 drops every two to three hours. The very next morning a marked amelioration

was observed and steady improvement followed, until on the eighth day the patient was discharged convalescent. Never has had a recurrence of the trouble.

Case II.—G. K., widower, aged twenty-seven. Symptoms of perityphlitis and general peritonitis. Veratrum viride given as above, together with hot turpentine stupes. Slow but steady resolution followed, and the patient was discharged convalescent about a month later.

Case III.—Mrs. E. T., widow, aged seventy-two; presenting symptoms of the same condition as the above. Veratrum viride and turpentine stupes employed as already described. On the third day resolution was well established. Later on an abscess developed in the right iliac region; it was evacuated and healed in two weeks entirely. After this convalescence was uninterrupted.

Case IV.—Mrs. M., married, twenty-two years of age; developed peritonitis after childbirth. Same treatment as above with the same success. Resolution established by the third day, and the patient discharged convalescent about a month later.

Case V.—B. O., aged fourteen; taken ill with symptoms of peritonitis. In addition to the usual purgatives the treatment embraced veratrum viride, as in the preceding cases. Four days later resolution was inaugurated and the girl was discharged convalescent in another week.

Case VI.—J. O'C., married, aged twenty-seven. Diagnosis: general peritonitis and probable appendicitis. Treatment as above, with the usual success.

In all these cases there was at the commencement constipation of the bowels, thus favoring fermentation and decomposition, and bringing about the condition of toxemia.

Another form of toxemia treated by veratrum viride is illustrated by the following series of clinical reports:

Case I.—Mrs. B. S., widow, aged seventy-three; was seized with convulsions and became unconscious, with stertorous breathing and a pulse of 126. Urine albuminous, then entire suppression. Twenty-five drops of veratrum viride were given hypodermatically and there followed within a half hour free perspiration, salivation, and bilious vomiting. Consciousness returned in an hour, temperature was normal, pulse dropped to 66. Patient was well by the next day.

Case II.—Mrs. B., colored, married, aged fifty. Convulsions, unconsciousness, stertorous breathing; temperature, 103° F.; pulse full and rapid. Following the administration of 25 drops of veratrum viride the temperature fell to normal, the pulse to 70. Two days later the patient resumed her domestic duties.

Case III.—K. G., infant, aged nine months, had been ill with enterocolitis for about two weeks; was seized with convulsions and became unconscious, with a temperature of 104° F. Twelve drops of veratrum viride beneath the skin promptly reduced temperature and restored consciousness.

Case IV.—J. B., married, seventy-three years old. Had enlarged prostate and suffered from retention of urine occasionally. Was suddenly seized with uremic symptoms; unconsciousness, Cheyne-Stokes respiration. Pulse, 132; temperature, 105.5° F. Complete anuria. Thirty drops veratrum viride were injected beneath the skin, and half an hour later the tempera-

<sup>1</sup> *Med. News*, LXXVIII, No. 9.

ture fell to 100.5° F., pulse to 84. Consciousness soon returned. Copious perspiration and salivation, with bilious vomiting, were observed as in other cases. Patient had a similar attack some months later and promptly recovered under similar treatment.

Case V.—Mrs. O., widow, aged sixty-two; was taken ill, with convulsions, delirium, and fever. Pupils dilated, pulse feeble and frequent. Twenty-five drops veratrum viride were injected, and free perspiration and salivation resulted. Consciousness soon returned.

The following case illustrates a form of toxemia due to pneumococci:

Case VI.—J. G., eighty years old; was seized with severe pain in lower anterior portion of right side of the chest. A loud systolic murmur, strongest at the apex, was audible, probably due to calcareous deposits on the mitral valve. The breathing was rapid and laborious, the man coughed and was semi-delirious. Temperature, 102.6° F.; pulse, 120. Dulness could be elicited on percussion over the right lower lobe, and crepitant râles were audible over the same region. Twenty-five drops of veratrum viride were injected with the usual consequences: free sweating, salivation, retching of bile, together with a fall of temperature and pulse. Pain and delirium ceased. After an illness of five days the patient was discharged convalescent.

Case VII.—J. S., aged twenty-eight, was seized with convulsions after an error in diet. Possibly the attack was due to the absorption of toxic material from the digestive tract, although the author is inclined to diagnose the case as hysteria with gastralgia. Thirty drops of veratrum viride effected a speedy cure. In this connection the author suggests the trial of veratrum viride in various spasmodic conditions, such as hepatic colic, pyloric spasm, etc.

In conclusion, the author considers the *modus operandi* of the drug. Its first effects manifest themselves on the glandular system. Free perspiration, salivation, and vomiting of bile, which invariably result from the exhibition of veratrum, give evidence of its stimulating influence on the cells of the sudoriferous and salivary glands as well as on the hepatic cells.

These glandular effects have a deep significance. We know that toxic substances are removed from the system through glandular channels. By stimulating the eliminating organs veratrum viride thus aids in cleansing the system of foreign material. Furthermore, the free perspiration leads to a marked fall of temperature, which is inimical to the activity of micro-organisms, while favoring energetic phagocytosis.

All these considerations explain the strikingly favorable results obtained from veratrum viride in toxemic conditions. Its trial, instead of pilocarpine, in acute alcoholism, is recommended by the author for the reasons enumerated. The preparation employed by the author was Norwood's tincture, boiled and filtered.

## SIMPLICITY IN THERAPEUTICS<sup>1</sup>

By Edwin W. Pyle, M.D., of Jersey City, N. J.

STORIES may live by tradition, but therapeutics must be perpetuated upon facts. Individual experiences with drugs may vary, but they must admit of a reasonable verification to be of scientific value.

Taking these sentiments as the basis of a theme, we approach the subject of small doses, with an explanation as to their use in therapeutics, with a degree of hesitancy, by reason of the criticisms that arise from prejudice and misunderstanding. The small dose has not yet run the gauntlet of professional prejudgment, but it has been championed by some people to such an extent as to become a revolutionary agent in methods, and a positive contribution to therapeutics. We use this term with reference to the fractional, or the appreciative dose, with no regard for an infinitesimal standard.

The outgrowth of studying the effects of drugs upon the healthy body, has been the teaching of the elective affinity which all medicines seem to have for definite tissues. Upon this subject the late Professor Stillé has said: "Future investigations will throw light upon this obscure department which must hereafter furnish the surest basis for a science of therapeutics."

The word "specific" is used in reference to a medicine which antagonizes disease, as quinine does the malarial plasmodium; but in a physiologic sense it refers to the elective relation which certain drugs bear to certain tissues, parts or organs. Thus podophyllin has a specific affinity for the small intestine, chiefly for the duodenum, and attacks these parts from whatever source introduced. The active principle of cantharides passes into the blood, producing acute congestion of the kidneys and urinary passages. Colchicum irritates the stomach and intestines, whether swallowed or injected into the veins.

So, likewise, colocynth influences the colon; aconite the vascular system; gelsemium the cerebro-spinal centers; aloes the rectum; others selecting glands or organs according to their varied properties. Dr. H. C. Wood bases the eleventh edition of his "Therapeutics" upon physiologic study, while Cushny devotes a chapter to the special subject of affinity, with the comment that some cardiac poisons act only on the auricles, while others influence the ventricles.

Here, evidently, is a principle in therapeutics, supported by excellent authority, with very little evidence of its practical ap-

<sup>1</sup> *Amer. Med.*, June 1, 1901.



plication in selecting medicines according to their specific relations. Apparently, some drugs act only through chemic union, combining with protoplasm to alter the function of cells; others increase functional activity by a law of stimulation, depending upon the *quantity administered*.

It is in the prescribing of the latter that the small dose is particularly applicable, and may be selected with a fair degree of therapeutic precision.

We hazard the opinion that when a special part or organ becomes inflamed or disturbed in function, the physiologically selected medicine acts as a stimulant to restore balance of forces, when given in small and frequently repeated doses; but irritates congests, or paralyzes recuperative power, thereby aggravating the malady, when given in *large* doses at *long* intervals, precisely as alcohol influences the system under like administration.

It is well known that a full dose of alcohol paralyzes the cerebrospinal centers; but if that same amount be administered in small doses at short intervals, instead of stupor, we obtain the highest degree of stimulation. Many medicines furnish the same evidence.

To illustrate: digitalis acts upon muscular fiber, causing slower relaxation, quicker contraction, and is thus indicated in weak heart action with low blood pressure. Under such conditions 10 to 20 drops of the tincture may give excellent results; but more frequently the morbid action will not be corrected by this size dose. If, for convenience, we put the same quantity into 20 teaspoonfuls, or a half glass of water, and give 1 or 2 teaspoonfuls every one or two hours (dose  $\frac{1}{2}$  to 2 drops), the result will be far better, and generally a slow, sustained action follows. The late Dr. Edward Mayer has written: "Small doses will steady the same heart that has been made to flutter under large ones."

Aconite influences the vascular system, and bryonia limits effusions of serous membranes (Phillips). In sickness characterized by fever, quick pulse, labored breathing, pleuritic pain and rusty sputa, 5 to 10 drops of these strong tinctures into 20 teaspoonfuls or a half glass of water, one or 2 teaspoonfuls given every hour or 2 hours (dose  $\frac{1}{4}$  to 1 drop), constitutes an early treatment for pleurisy and pneumonia that has given results incredible to those who have been accustomed to large doses and severe antiphlogistic measures. This fact has been verified by years of experience and is no longer in the "primary stage of laudation."

Dr. Cooper<sup>2</sup> writes that "in asthenic cases of pneumonia he relies on minute doses of aconite and bryonia, frequently repeated," and adds, that under this treatment we should not lose over 5 per cent. of our cases. The probable explanation is that the small dose stimulates and equalizes, without interfering with the essential *vis medicatrix nature*.

Belladonna determines blood to the capillary circulation with heat and redness; rhus toxicodendron will in addition produce a vesicular eruption. If in erysipelas either of these medicine, depending upon the character of eruption, be given as above directed, the results are fewer deaths and quicker recoveries, *ceteris paribus*, than when tincture of ferric chloride is administered in unwelcome doses. We disclaim any estimate of the value of this medication, we only know that nature thus simply treated gives better results than when burdened by an irritating product, and in this particular instance we are supported by the testimony of Cushny, the Hôtel Dieu (Paris), and the Royal Infirmary in Edinburgh.

Phytolacca is a specific irritant of the throat. It is physiologically indicated in follicular tonsillitis with fetor of the breath, and in small doses is a most positive remedy. Jaborandi produces diaphoresis, yet in small doses will check the sweating of tuberculosis.

Nitroglycerin causes congestive headaches with intense throbbing; when properly selected for morbid conditions of similar character,  $\frac{1}{1000}$ -drop doses will give relief.

Apomorphine acts upon the medulla, produces convulsions, rapid breathing and great prostration. A small hypodermic dose will stimulate the spinal centers, relieve hysteria, stop the convulsions in childhood, and abort the pains of vasomotor disturbances.

Ipecac and calomel, both nauseants, correctly prescribed, will stop bilious vomiting. Colocynth, universally known as a purgative, will, in small doses, relieve diarrhea characterized by griping umbilical pain (Hughes).

Fractional doses of podophyllin relieve a form of diarrhea characterized by dark-colored movements, cutting pains, and worse in the mornings (Ringer). Less than 1 drop doses of cantharides relieve the distress of cystitis and hematuria (Mayer).

Arsenic, in minute doses, is extolled in the coryzas of childhood and in the vomiting of drunkards (Murrell). Potassium bichro-

<sup>2</sup>MERCK'S ARCHIVES (prize essay) for September, 1900.



mate in  $\frac{1}{100}$ -grn. doses relieves hoarseness and aphonia (Phillips). Calomel in  $\frac{1}{20}$ -grn. doses every hour relieves irritable stomach (Aulde), and every two hours is a clinical routine treatment for certain systemic dyscrasia (Knapp). Strychnine arsenic, in doses of  $\frac{1}{134}$  grain every hour, makes "the most permanent tonic stimulant" (Jackson).

Malcolm Morris, of England, recommends the wine of antimony in drop doses as specific treatment for acute eczema.

These, with many similar facts, have long been known and admit of sufficient application to merit more general recognition. They must, however, be arrayed against other facts of a totally opposite character, and constitute no foundation for a belief in small doses only, or in the universality of a law of cure. There are many instances in which the fibril cannot replace the lash; when to remove conditions, to antidote poisons and to eliminate disease, vital, chemical and well-proven drugs are essential in the fullest doses.

The physiologic action of a drug may point the way to its therapeutic use. Every prescriber should know not only the pathology of disease and the antagonizing influence of medicines, but also their elective affinity for tissues of the healthy organism.

Whenever it is possible to apply the stimulating influence of the physiologically indicated dose, prescribing becomes ideal; relief is not wrought at the expense of other organs, as is the case when syrups are given for coughs, nor is the physician's mind tormented by a senseless, unreliable symptomatology.

To prescribe, in every instance, opiate astringents for diarrheas, many of which can be relieved by diet; morphine for certain abdominal pains that readily yield to dioscorea; or massive doses of bismuth for vomiting that can best be treated by a judicious application of heat—burdens the system unnecessarily and prostitutes therapeutic measures. The single remedy, hygienically given in whatever dose, not only simplifies prescribing, but is scientifically correct.

Polypharmacy is, very largely, the result of physicians writing their own histories [?] and never taking their own medicines. Dr. Hare has made a strong argument against the irrationality of this method of combining many drugs, whose action is little understood, and putting them into bodies of which we know less. The experience of those treated by other systems makes the strongest argument. All believe that if there be

no good in "infinitesimals" there is at least directly no harm.

"Yet," says Dr. Osler in his review of the nineteenth century medicine, "nobody has ever claimed that the mortality among homeopathic practitioners was greater than among those of the regular school," an observation well substantiated by statistics. But a more significant fact is observed in the psychic method of cure in which faith is the great lever. Faith, from childhood to age, is more or less a panacea for human ills, and, however reposed, should never be rudely shaken. Whether it be in prayer, or in the plainest doctor, it is the same precious commodity without which we can do nothing, and with which we, too, can work wonders.

To see a large assemblage of people, many from the highest circles of life, bright, animated, in full possession of all that is splendid in womanhood and manhood; to know that they sleep, eat, work, with all the functional activity of a God-given nature, without the stimulus of "pills," should have its lessons without necessarily indorsing popular fallacy. We are rapidly learning that to cure a patient is not so often to cast out disease by medicine as it is to return to natural methods of diet, rest, exercise, etc. It is an everyday experience to meet those who are courting sickness through ignorance of natural laws, who need to be shown the way to health, rather than to be given medicine.

"Of all the ills that suffering man endures,  
The largest fraction liberal nature cures."

The evolution of medical practice, assisted by sanitary science, that brightest star of the closing century, has curtailed the once unlimited boundary of therapeutics, and has simplified its methods.

The alpha and omega of typhoid fever prescribing is no longer quinine, but diet and nursing. Innocent childhood with innocuous croup is no longer vomited with turpeth mineral, but is equally relieved by the gentleness of aconite and spongia; and in diphtheria the long list of horrid doses has given way to antitoxin and supportive treatment. In puerperal convulsions the unfortunate victim of her own economy is no longer held in the vise of overpowering hypodermics, but the system is rationally relieved of poisoned blood and the life-giving impetus of an intravenous transfusion takes its place.

Having been reared under influences which prompted relentless dosing for every ailment—when Watson was the authority recommending the scarifying and blistering of every pneumonic patient, when water was

denied to the burning throats of fever and tongues were parched and nights were filled with dreams of constant drinking; having lived to see the decadence of nauseating compounds and temporizing dilutions—we thrice welcome the uprising of a new dispensation of medicine, which puts faith in natural methods and a few well-proven drugs, simply administered.

Were we to retrospect thirty years of general practice, to select one from many experiences, to leave as a parting injunction to the rising generation of physicians, it would be a request in the interest of humanity to simplify prescribing, in using the smallest dose and the least medicine possible to accomplish the therapeutic purpose.

## TREATMENT OF CHRONIC EXUDATIVE NEPHRITIS<sup>1</sup>

By F. J. Morton, M.D.

THE same principles that govern the treatment of the acute form of exudative nephritis apply here in the chronic form, modified only by the slower progress of the disease. The measures employed in the acute will be called for intermittently in the chronic affection, for the course of the disease will present many variations and conditions will arise from time to time identical with those presented by the acute form.

Most of the writers whom the author has consulted devote very little space to the treatment of this form of nephritis. They simply refer to it as being treated essentially the same as in acute nephritis. Osler, last edition, devotes eight lines to the subject. Delafield, in "Pepper's System of Medicine," dismisses the subject with four lines. He says: "The main indications for treatment are to remove the dropsy and restore the blood to a natural condition. It is usually necessary for a patient to give up his ordinary business, and, if possible, to pass the winter months in a warmer climate."

A brief reference to causation will be found to furnish useful indications for the prevention of this condition and the slowing of the morbid action when established. The first point is that chronic renal diseases are commonly the outcome of indulgence in a highly nitrogenized diet. Then the second cause is exposure to cold, and especially changes of temperature. The function of the skin is closely allied to that of the kidney; not only as regards water elimination, but also as regards the elimination of nitrogenized waste. Repeated chills not only produce renal hyperemia by the internal

congestion which follows all contraction of the cutaneous vessels, but the skin being checked there is an accumulation of waste in the blood and then there is furnished another cause of renal hyperemia and increased functional activity—the two chief factors in the induction of chronic changes. Careful thought over the relations of the skin and kidneys will not only explain the association of acute nephritis with sudden exposure, but will also elucidate the connection which exists between constant exposure and chronic renal changes and illustrate an important part in the treatment of this affection.

Whenever there exists a suspicion of renal disease the patient must be watched carefully for the less doubtful indications, which may be long in showing themselves—all the longer indeed if the treatment be justly and truly adapted to the case. It is not only the avoidance, as far as may be, of any aggravation of the already existing disease that is to be aimed at; it is the avoidance of any acute condition that we must strive against. In those acute conditions lie most of the dangers to life. Where chronic disease pre-exists, there acute disease is most formidable. In the phthisical acute pneumonia is ever to be dreaded. In chronic disease of the liver, hepatitis becomes most serious. And so in chronic renal disease the great matters to be avoided are in those conditions of acute congestion or even of nephritis which are so apt to occur in the subjects of chronic renal changes, and to which pre-existing disease renders them so liable. The means to be adopted lie largely in connection with the skin and the diet.

The subject of renal disease should ever be warmly clad. A warm, dry and equable climate is also desirable. Woolen under-clothing is necessary at all seasons of the year, and it is well to have the kidneys especially protected by a woolen band around the body. The frequent use of warm baths, followed by shampooing, is of much use in keeping the skin active. Tissue waste should be avoided, as the waste is gotten rid of with difficulty, and tissue rebuilding is defective. Hence muscular exercise should be reduced to the minimum consistent with health.

Stewart gives as the essentials of a good diet that it be nutritious, easily assimilated, and non-irritating to the kidneys. Milk or buttermilk meets these indications better than any one article of diet. All agree that when milk alone is tolerated by patients it has great advantages over mixed diet or milk and farinaceous foods. Eminent clinicians have shown that a mixed diet will in

<sup>1</sup> *Cleveland Med. Gazette*, xvi, No. 5.

some cases give as good results as the exclusive use of milk. We should above all things seek that diet for the patient which he can best digest and assimilate, for we may rest assured that the products of faulty digestion and assimilation will irritate the kidneys more than any amount of normal material they may be called upon to eliminate, while at the same time the general system will suffer from lack of support.

No beverages are so good as pure water. There should be plenty of it to flush the sewers and wash out the debris from the more or less obstructed tubules. Alcoholics, even the mildest, and no matter how small the amounts, are contraindicated.

No new drugs of any special importance have been added of late to the list of those previously used. There seems to be much difference of opinion in regard to the use of mercurials. "The use of mercury is objectionable," says Roberts, "on account of the extreme susceptibility of patients with Bright's disease to the physiological action of the drug. Severe salivation sometimes follows very small doses; in one of my patients profuse ptialism was produced by 2 grains of blue pill with extract of colocyth taken on two alternate mornings."

A very recent writer, Dr. Nathan Davis, speaks much more favorably of mercurials in renal therapy. "Calomel is not only used for a clean alimentary canal and free portal circulation, but is also recommended in small repeated doses for its diuretic effects—the elimination of nitrogenous waste, and will, as an alternative, promote a better flow of lymph, the absorption of interstitial exudates, and even of foreign material in the convoluted tubes."

By keeping the urine alkaline, casts are formed in smaller numbers—are partly dissolved, and much of the granular matter is carried into solution. Alkaline diuretics will make the urine alkaline and therefore help to keep the renal tubules permeable. The salts most frequently used are the citrate, acetate, and bitartrate of potassium.

Many writers during the past twenty-five years speak of Basham's mixture (*Liquor Ferri et Ammonii Acetatis*, U. S. P.) as an efficient remedy for anemic cases. In a recent review of this subject Andrew H. Smith says a concise statement of the problem is this: "Given renal disease with renal inadequacy on the one hand and loss of albumin and general malnutrition on the other, how are we to strike the balance so as to keep up the nutrition without irritating the kidneys?" Now, in considering this problem, it is all important that we should have a correct standard for estimating the

condition of the patient so that we may know whether any particular regimen is benefiting him, or the reverse. The standard generally accepted is the amount of albumin excreted by the kidneys. But this is not wholly correct, for the fluctuation in the quantity of albumin is much oftener the result of changes in diet than of changes in the disease. It is impossible to escape the conviction that many authorities in employing this standard unconsciously assume an analogy between albuminuria and glycosuria, although in one case the abnormal element in the urine is drawn from an abnormal element in the blood, while in the other it is drawn from a normal and necessary one. In glycosuria it is the presence of sugar in the blood that constitutes the danger; in albuminuria it is the loss of albumin from the blood that exhausts the vitality.

The only ground upon which the amount of albumin lost could be taken as the index of the gravity of the disease would be that albumin escaped from the kidneys only in proportion as their condition was abnormal and that no other factor than this abnormality entered into the case. And yet we know that changes of diet alone often produce an increase or diminution of the percentage of albumin in the urine. If, then, we institute these changes with the purpose of affecting the output of albumin, what becomes of the staff with which we were to measure the disease? The only true standard is to be found in the general condition of the patient. If, on changing from a non-nitrogenous diet to a nitrogenous one we find a general improvement in the patient's condition, it is an evidence that the change was beneficial, no matter if the albumin fills a larger proportion of the test-tube. On the other hand, if we cut off a large proportion of animal food from the diet, and our patient grows more weak and dyspeptic, more anemic and dropsical, it is of no importance that only one-half or one-third of the former quantity of albumin is found in the urine—the change has done harm, and the sooner we change back again the better.

A MEASURE that Dr. Jas. Tyson considers of service in improving the general condition of patients with chronic Bright's disease is the frequent use of the vapor-bath, in a "cabinet." A sweat thus produced and continued for from twenty minutes to half an hour just before going to bed, has the happiest effect in promoting the general well-being of the patient. Energy increases, appearance improves, and the skin becomes clearer and smoother.

## TREATMENT OF TUBERCULOUS PERITONITIS<sup>1</sup>

By I. Burney Yeo, M.D., F. R. C. P.

THE treatment of this affection has made considerable advances during recent years, and our prognosis has thereby been rendered more hopeful. While older authors have looked upon the disease as generally fatal, we now see over 50 per cent. of cases recover, and this progress is due to our more efficient methods of treatment, surgical and medical.

It is to illustrate the latter methods that Dr. I. Burney Yeo describes his management of three interesting cases.

The first case, a girl of thirteen, came under the author's care, presenting symptoms of acute tuberculous peritonitis; great swelling, tympany, and tenderness of the abdomen; great emaciation; presence of fluid in the peritoneal cavity; diarrhea and hectic fever. To allay pain and irritation of the bowels, a mixture containing in each dose 15 grm. of bismuth salicylate, 15 min. of spirit of chloroform, and 1 dram of compound tincture of cardamom, was ordered every six hours. The patient was placed on a milk diet and an application consisting of 3 parts opium liniment to 1 part tincture of iodine, was made to the abdomen. These measures successfully met the pain and diarrhea. To combat the tuberculous infection, four days after the child's admission a mixture of iodoform ointment and cod-liver oil, equal parts, was freely rubbed over the abdomen twice daily, and a short time later the bismuth mixture was replaced by a pill of  $\frac{1}{4}$  grm. iodoform with  $\frac{1}{2}$  min. creosote, thrice daily. This treatment was persevered in for three months and rewarded by complete recovery, the shrunken, exhausted child having turned into a blooming, well-nourished girl.

In the second case a young lady was operated upon for supposed appendicitis, which proved to be in reality advanced tuberculous peritonitis. When the author took charge of the patient she suffered from severe diarrhea, high fever, and was very weak and exhausted. After checking the diarrhea, iodoform applications were made to the abdomen, and iodoform with creosote in pills administered internally. After five weeks of this treatment the patient could be taken to the seaside and soon regained perfect health.

In the third case similar measures were resorted to, the outcome being as satisfactory as in the first two cases.

All three patients were desperately ill, all

received the same treatment, and all made good recoveries. It must, however, be granted that the patients were very young, between ten and twenty years of age, and the disease ran an acute course. In older people and in chronic types of the affection therapeutic success must of necessity be much less satisfactory.

As to the *modus operandi* of iodoform inunctions, it was demonstrated that iodoform ointment is excreted as iodine in the urine. Thus the absorption of iodoform by the skin results in supplying iodine or iodine compounds to the tissues of the body, and remembering that iodine has long been considered as an antitoxin to tubercle, we shall understand the rationale of the author's treatment.

The beneficial action of iodoform ointment applied to the shaved scalp in tuberculous meningitis rests on a similar principle. The use of creosote in tuberculous peritonitis was first suggested by Prof. Thoma.<sup>2</sup>

The author thinks that the method described above: iodoform applications externally and the inhibition of iodoform with creosote in small doses internally, is more promising than surgical interference in cases presenting intestinal ulceration. The disease must be attacked on both sides—by applying antibacterial agents to the peritoneum as well as to the intestines.

### TREATMENT OF FACIAL ERYSIPELAS

Dr. C. W. Race,<sup>3</sup> physician to the Ohio Sandusky Soldiers' Home, after reviewing the treatment which has been customary in the treatment of erysipelas, says that the routine treatment at the home consists in the external application of ichthyol and collodion.

The ichthyol is mixed with an equal part of flexible collodion and the affected parts are heavily painted with this mixture; if the varnish cracks or scales, it is at once renewed by a fresh application. Other conditions are treated as they arise. The treatment, the author says, has been most satisfactory; in fact, there has *never* been a death in the cases so treated which could be attributed to erysipelas. He reports as an illustration two extremely severe cases of facial erysipelas, with high temperature ( $103.5^{\circ}$  and  $105^{\circ}$  F., respectively), delirium, involvement of the entire face, head, neck, back, etc.—which were treated with ichthyol for a short while and made a good recovery.

<sup>1</sup> *London Lancet*, Jan. 16, 1897.

<sup>2</sup> *Cleveland Med. Gazette*, xvi, No. 5.

<sup>3</sup> *London Lancet*, No. 4046.

# Progress in Materia Medica and Drug Therapy

## **SALT SOLUTIONS IN GONORRHEA**

In treating a case of gonorrhea with injections of germicidal solutions, Dr. Chas. E. Woodruff<sup>1</sup> accidentally discovered, on irrigating the urethra of a patient with a hot decinormal salt solution in order to soothe the mucous membrane, that the discharge and other symptoms of the disease ceased at once. Since then he has employed the salt solution in all cases and attained very good results. Gonorrhea being at first a local disease, requires only local treatment, and the indication is to cleanse the urethra with a hot and non-irritating fluid as often as possible. The irrigations should be given at least every hour, though intervals of two to three hours are also admissible. Even one irrigation daily has been of benefit.

Under this treatment the disease runs a course of from seven days to three weeks, rarely longer. The great point is to instruct the patient in the proper use of this method. A simple short glass tube should be used and the urethra washed out with a quart of hot decinormal salt solution every hour. Properly employed, this method is said to be reliable and safe.

## **THE INSOMNIA OF ARTERIOSCLEROSIS<sup>2</sup>**

Insomnia is an extremely trying complication in arteriosclerosis. It seems as if the nervous elements of the brain do not receive an adequate blood-supply, and in consequence manifest a certain degree of excitation, which hinders rest and sleep. When the latter does supervene, it comes after hours of restlessness, lasts only three to four hours at the longest, and is very light. Frequently the patient has no sleep all night.

The treatment must consider the age and arterial condition of the sufferer. Adequate bodily exercise is beneficial. Cool baths are to be shunned, warm baths used cautiously, while a rubbing-down at night is safe and effective. Tea or coffee should be prohibited. The after-dinner nap must be cut down to half an hour at the utmost. Narcotics should be used sparingly on account of the dangerous drug-habits that can be easily induced. The various compounds containing nitrous acid are very valuable on account of their vasodilatory action. Nitroglycerin is giving good results in doses of  $\frac{1}{120}$  gm. to  $\frac{1}{60}$  grn., at bedtime, kept up for about a week and stopped if head-

ache or nausea appear. In the intervals sulfonal or trional may be given, but cautiously. Though valuable, nitroglycerin is not a sheet-anchor, since habituation may render it inactive.

## **TRICHLORACETIC ACID IN HAY-FEVER**

Dr. H. Krause<sup>1</sup> recommends the snuffing up of a 1-per-cent. solution of trichloracetic acid as a cure for hay-fever. During the past two years he has used it in more than thirty cases with the very best results. Improvement and cure follow in two to eight days.

## **TANNOFORM AS A PREVENTIVE OF HYPERIDROSIS AND SORE FEET**

Surgeon-Major F. Merz,<sup>2</sup> in order to ascertain the comparative value of tannoform in preventing and curing excessive and fetid perspiration of the feet (hyperidrosis and bromidrosis) used it in a great number of soldiers, side by side with other treatment. Each company was divided into three parts: one division was treated—for three nights in succession—with tannoform powder; the second division was treated with the ordinary regimental foot powder, and the third was made to take a cold foot bath only. In a week the feet of all soldiers, who in the meantime had attended to their exhaustive drills and marches, were inspected and the following instructive results were noted: Of those that were treated only with the ordinary footbath, 68 per cent. were found suffering with hyperidrosis of various degrees of severity; of those treated with the regimental foot powder, 52 per cent. were so affected, while of those treated with tannoform only 20 per cent. had hyperidrosis, and not one case was of the very severe variety (where the skin between the toes becomes macerated, etc.).

The tannoform, mixed with two parts of talcum, was applied by rubbing it in well between the toes and over the foot. The writer states it as his conviction that had the tannoform been applied more than three times, the results would have been still better. He agrees with Dr. Karl Ullmann that the prophylactic treatment of hyperidrosis with tannoform must extend over a period of at least eight days; but then, he says, we may be certain that *for weeks to come* those so treated—at least the great majority—will not suffer with sweating of the feet. The best time to em-

<sup>1</sup> *Med. Record*, LIX, No. 11.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 11.

<sup>1</sup> *Therap. Monatsh.*, May, 1901, p. 275.

<sup>2</sup> *Schweiz. Monatssch. für Offiziere aller Waffen.*

ploy the tannoform is on going to bed. A preliminary footbath before each application is desirable, but not absolutely necessary. The bad odor of the feet disappears just as surely as the sweat itself. In not a single instance has the doctor noticed any disagreeable by-effects of any nature, and he considers the drug absolutely innocuous. Basing himself on his highly gratifying experience, the major in his report to the chief physician of the army made the following recommendation: There is no doubt that in tannoform we possess an excellent, absolutely innocuous remedy for the prevention, to a great extent, of hyperidrosis and sore feet in the army; its systematic employment will contribute materially toward the marching ability of our soldiers.

#### **TREATMENT OF EPISTAXIS IN PEOPLE BEYOND MIDDLE AGE**

People beyond middle age occasionally suffer with very profuse epistaxis, which is not caused by any blow or injury, but comes on without any apparent cause. Dr. George Coates<sup>1</sup> has made a careful study of five cases which he has had under observation for a long time. In each case the sequence of events which led up to the epistaxis was essentially the same, namely: (1) long-continued high arterial pressure; (2) some sudden cardiac failure; (3) overfilling of the whole venous system, and (4) leakage from an overfilled vein. While during the attack, if it be profuse, local measures may be adopted, it is seen that prophylactically our attention must be directed to remedies influencing the general circulation. The object is to empty the overfilled veins, and this we can accomplish by relaxing the walls of the arteries and helping the weakened heart to do its work. For the first purpose—the dilatation of the arterioles—nitroglycerin is very effective; to the same class belong amyl nitrite and erythrol tetra-nitrate. As heart tonics, strychnine and strophanthus are the most suitable. These remedies are not only theoretically correct, but have proved their efficiency in actual practice; under their use the epistaxis ceased and did not recur.

#### **TRIFERRIN: A NEW ORGANIC IRON PREPARATION**

Prof. G. Klemperer,<sup>2</sup> of Berlin, says that in view of the large number of available iron preparations, there must have been some special circumstances to induce him to institute trials with a new iron compound. The special inducement was the fact that the compound triferrin was prepared and recommended to him by the eminent chemist,

Prof. E. Salkowski. Chemically, it is a combination of iron with the phosphorus-containing paranucleinic acid, obtained from the casein of cow's milk. It contains about 2.5 per cent. of organically united phosphorus, 9 per cent. of nitrogen, and 22 per cent. of iron. It is readily and clearly soluble in a dilute solution of sodium carbonate, but insoluble in a dilute hydrochloric acid, of a strength of 0.2 per cent. (as it exists in the human gastric juice). Dr. Klemperer administered the preparation to twenty-one patients suffering with anemia and chlorosis in doses of 5 grn. three times a day. The results were excellent. The percentage of hemoglobin increased in all instances and the subjective symptoms improved. It was taken readily and in no case did it cause any gastric disturbance or other disagreeable effects.

#### **EUGUFORM**

This is a new substance, prepared by the action of formaldehyde on creosote or guaiacol and precipitation with glacial acetic acid. Chemically it is acetyl methylene diguaiacol. It is a very fine, grayish-white powder, practically odorless, and insoluble in water. Dr. Ciesielski<sup>1</sup> tried it in Joseph's Polyclinic in a number of dermatologic conditions, and also in wounds, chancroids, bubo, etc. He used it either in the form of powder or a 2.5 to 10 per cent. ointment. It appears to be a fair vulnerary, acts well on chancroids and bubo, but not on chancre or ulcerating gummata.

#### **QUININE AS A VASOCONSTRICTOR**

Attention has been again called of late to the hemostatic action of quinine in hemoptysis, epistaxis, etc. Dr. M. Huchard<sup>2</sup> employed the drug in suitable cases and is able to confirm former statements made by others. He has obtained good results from large doses of quinine sulphate in various congestions and hemorrhages, as those of exophthalmic goiter, aortic regurgitation, etc. The effect of quinine in these cases is due to its properties as a vasoconstrictor. In exophthalmic goiter a dilated condition of the vessels of the neck and head is present, with the resulting cerebral excitement, tremors, goiter and exophthalmos. Quinine, by constricting the vessels, ought thus to exercise a beneficial effect, and as a matter of fact this theoretical conclusion is completely borne out by practical experience. In two cases published by Paulesco the prolonged daily

<sup>1</sup> *London Lancet*, No. 4051.

<sup>2</sup> *Therapie d. Gegenw.*, 1901, No. 4.

<sup>1</sup> *Dermatol. Centralb.*, 1901, No. 6.

<sup>2</sup> *Bull. gén. de Thérap.*, CXL, No. 12.

use of quinine sulphate was followed by pronounced amelioration. The author employed quinine hydrobromate in doses of 24 grn., thrice daily, diminished to 15 grn. twice daily at the end of a week, and after another week brought down to 8 grn. This was continued for two to four months, with weekly intermissions every three weeks, with very encouraging results. The exophthalmos and tachycardia had almost disappeared, and the nervous symptoms were all ameliorated.

In certain forms of aortic insufficiency, with violent pulsations of the cervical arteries, visible capillary pulse, and other signs of great vasodilatation, the author employed quinine in doses of 15 grn. daily, with the greatest success.

Another affection which was benefited by quinine is the "orthostatic tachycardia" of the author, so called from its resemblance to orthostatic albuminuria. The malady consists in the appearance of tachycardia on rising from the reclining or sitting posture. The pulse mounts up to 140-160, to return to about 80 the moment the patient sits or lies down again. In this peculiar condition, associated as it is with diminished arterial tension, quinine sulphate in large doses has given very good results in the author's hands.

#### THE TREATMENT OF ACNE ROSACEA WITH SUPRARENAL GLAND

Acne rosacea is more often met with in women than in men. The trouble is usually associated with disorders of a gastro-intestinal character, often with uterine diseases, also with gout. All factors tending to produce dilatation of the superficial blood-vessels aggravate or excite the development of acne. Exposure to cold, free use of alcohol, a highly seasoned diet, irritating cosmetics are thus so many important etiological factors, which must be duly considered in treating the disease.

The treatment itself is discussed by Dr. Wm. J. Munro<sup>1</sup> as follows: First of all, general measures are to be instituted, tending to relieve the disordered digestive organs. Alcohol, highly seasoned foods, rich sauces and gravies, and the like, are to be prohibited. Daily exercise should be recommended, and the organs of elimination kept active. Any underlying trouble, as gout, uterine disease, etc., calls for its own treatment. The routine use of arsenic, especially in large doses, is condemned by the author on account of its irritating effects on the alimentary canal.

More important than the general treatment is the local, which has for its objects: (1) to remove the effect of secondary infection, and (2) to counteract local inertia of the capillaries, with the resulting sluggish circulation. To accomplish this, bathing the face with hot water, steaming, squeezing out the pustules, and the usual lotions and ointments are all sufficiently well known procedures, but often enough they prove disappointing. Seeking for a more efficient remedy in controlling the abnormal dilatation of the vessels in acne rosacea, the author was led to try suprarenal extract. He had a paint prepared by dissolving a tablet of suprarenal capsule in 1 dram of water, with a crystal of thymol added to prevent decomposition. The paint was applied every night after hot bathing and left on overnight. The next morning the face was washed with hot water and a sulphur lotion applied. As a result of this treatment the patient was practically cured in six weeks. The internal use of suprarenal extract (5 grn. in tablets, twice daily, increased to six daily, and reduced if unpleasant symptoms appeared) was found later to assist the local measures materially.

The author has used suprarenal extract in the treatment of acne rosacea in numerous cases and obtained very satisfactory results. It should be stated, however, that all his cases had not advanced beyond the second stage of the disease; that is, no tissue hypertrophy had as yet taken place.

#### COCAINE INTRASPINALLY IN SCIATICA

Drs. Marie and Guillain<sup>1</sup> have employed intra-arachnoidal injections of cocaine in treating a case of sciatica. The patient, a man aged thirty-five, had suffered from right-sided sciatica for eight days. Cocaine,  $\frac{1}{12}$  grm., was injected into the intra-arachnoidal space. After three minutes the pain ceased and the patient rose and walked about all day. Although the pain returned later, it was of a mild degree and the patient considered himself cured.

#### ICHTHYOL IN ERYSIPELAS AND TINEA TONSURANS

Dr. Brown,<sup>2</sup> clinical lecturer at the New York Post-Graduate Hospital, presented a case of facial erysipelas in which a 30 per cent. ichthyol salve had been constantly applied. The result was perfectly satisfactory, all the signs of the disease having disappeared. He says: "The results of the use of strong ichthyol ointments from 25 to 50 per cent. strength in erysipelas are so sat-

<sup>1</sup> *Austral. Med. Gaz.*, XIX, No. 12.

<sup>1</sup> *London Lancet*, No. 4050.

<sup>2</sup> *Post-Graduate*, XVI, p. 182.

isfactory that I rarely use any other method of treatment."

In tinea tonsurans he prefers the following ointment:

Salicylic Acid.....	20 grn.
Chrysarobin.....	20 grn.
Ichthyol.....	1 dr.
Wool-fat }	to make ½ oz.
Vaseline }	

The scalp is shaved and the ointment rubbed over the whole surface. A bandage covering the scalp is then put on carefully, this being important to avoid any possible chance of the chrysarobin getting in the eyes. At the end of three days the bandage is removed, the head washed and some emollient salve applied to check the dermatitis which is usually set up. At the end of a few days the treatment is resumed if necessary.

#### ACUTE GASTRO-INTESTINAL CATARRH IN CHILDREN

Prof. Cesare Cattaneo<sup>1</sup> outlines the management of acute gastro-intestinal catarrh in children at the time of weaning and at an older age, as follows: The first aim is to clear out from the digestive tract all decomposed material and micro-organisms. No food, only drinks, would be given in the first twenty-four hours. The fluids increase diuresis and supply the loss of water. Gastric lavage with an alkaline solution is necessary in cases of cholera. Strong children may take an emetic. Calomel and enemata will cleanse the bowels. The fluid should be cold if fever be present, otherwise lukewarm. A good intestinal antiseptic is benzonaphtol with magnesia. In cholera infantum subcutaneous infusions of about 1½ pints of a normal salt solution will supply the need of water. Collapse calls for caffeine or ether injections. Fever is to be managed by hydrotherapy only. The transition to a diet of solid food should be made slowly and cautiously.

#### THYRADEN IN ORETINISM

Prof. H. Quincke<sup>2</sup> reports the case of a child, aged five years, presenting some of the usual train of symptoms accompanying the absence of the thyroid gland: the facial expression was stupid, the skin of the face red and infiltrated, the tongue enormously large and thick, protruding from the widely open mouth. The thyroid gland was the size of a pea.

The child was given iodothyrene at first, 4 grn. every second day. About two weeks

later iodothyrene was discontinued, and thyraden substituted for it in the same dose. The effects did not fail to appear during the following week: the face assumed a more intelligent expression, the tongue became smaller, the nystagmus was relieved and the child could play and laugh. After treatment of about six months the child was discharged from the clinic. It was brought back about eight months later with the former symptoms much intensified. A new course of thyraden again produced a remarkable improvement in the condition. The child died of diphtheria at the age of four years. The autopsy disclosed a total absence of the thyroid gland, which had been the size of a pea the first year. The case illustrates well the beneficial influence of thyraden in the disease.

#### CALCIUM PEROXIDE

Dr. M. Roshkovsky<sup>1</sup> employed calcium peroxide ( $\text{CaO}_2$ ) in a large number of gastro-intestinal diseases of infants and children with good results. The dose ranged from 3 to 5 grains several times a day. Its action was especially good in acid dyspepsia, while in enteritis it acted as a positive antiseptic. Its antiseptic action was easily demonstrated by the rapid diminution of the indican and the ethereal sulpho-acids in the urine.

#### SUPRARENAL CAPSULE IN HEMOPTYSIS

Suprarenal capsule has been successfully employed in hemorrhages from the eye, ear, nose and throat, also in uterine bleeding; but little has been published regarding its value in hemoptysis. Dr. Wm. B. Kenworthy<sup>2</sup> administered the remedy in a case of severe pulmonary hemorrhage, which had resisted all the usual methods of treatment. After the bleeding had recurred on three successive days, suprarenal capsule in 3-grn. powders was given every half hour for three doses; then every two hours for three more doses; and finally one three times daily for a week, dry on the tongue. Five minutes after the first dose the hemorrhage ceased entirely and never returned for the next ten weeks—that is, as long as the author could observe the case.

Suprarenal capsule was administered by the author in fourteen cases of hemoptysis with invariable success. Untoward effects were not observed. In all cases a marked strengthening and slowing of the pulse was noted; also improved respiration and relief of cough and expectoration.

<sup>1</sup> *Centralbl. f. d. ges. Therap.*, XVIII, No. 12.

<sup>2</sup> *Deut. med. Woch.*, XXVI, No. 49.

<sup>1</sup> *Vratch.*, XXII, No. 15.

<sup>2</sup> *Med. Record*, LIX, No. 11.



**CUPRARGOL**

This new remedy is not a combination of copper and silver, as the name might lead one to believe. It is a combination of copper and albumen, a compound analogous to protargol. It is a grayish-green powder, soluble in 3 parts of water. The solution is stable. The only report comes from Dr. E. Emmers,<sup>1</sup> who used it in 1- to 5-per-cent. solution in conjunctivitis, with satisfactory results. The solution when dropped into the eye causes burning, like zinc or copper sulphate, but it is claimed to be less severe and more transient.

**THE TREATMENT OF INSOMNIA**

Dr. Otto Dornblüth,<sup>2</sup> in reviewing the various means and methods of treating insomnia, says that the fear of medicinal hypnotics is unfounded. Used properly and with care, a medicinal hypnotic may save many from becoming neurasthenics, and thus prove of the highest value. While the author is an advocate of hygienic, dietetic, and hydrotherapeutic measures, he fully recognizes that there are cases where all such measures fail; and at such times to neglect the use of medicinal hypnotics means to fail in our duty. Not only are the latter more efficacious than many of the lauded hydrotherapeutic measures, such as a prolonged warm bath or a cold pack, but they are also less injurious. The assertion of the hydrotherapeutists that none of their measures prove injurious lacks proof; on the contrary, the author believes that the baths and cold packs have in time a weakening influence and that their after-effects are at least as injurious as those of a reliable medicinal hypnotic.

One of the best medicinal hypnotics with which the author is familiar is dormiol. This combination of amylene and chloral combines the advantages of both these chemicals without sharing the disadvantages of either. In all his experience with dormiol, the author has never noticed any unfavorable by- or after-effects. The minimum effective dose the author found to be two teaspoonfuls of the 10-per-cent. solution, but frequently from three teaspoonfuls to a tablespoonful may be required. Almost without exception, sleep rapidly follows the administration of dormiol—frequently in ten minutes, and but seldom did it take half an hour. Sleep generally lasts a number of hours. In melancholia the author has given dormiol—as an adjunct to the opium treatment—in daily doses of 5 dr. to 1 oz. (of the 10-

per cent. solution) for weeks at a time, and never, he repeats, has he observed any unpleasant effects from its use; there should, therefore, be no hesitation in administering dormiol for insomnia for as long a period as may seem necessary. Another advantage of this drug is its reasonable price, it being the cheapest of all the newer hypnotics.

**CHLORETONE IN NAUSEA AND VOMITING FROM ANESTHESIA**

Chloretone has been used as an antiseptic, analgesic and hypnotic. Its aqueous solution of 1 per cent. strength is said to be equal to a 2 per cent. solution of cocaine for local anesthesia. These properties of the drug suggested its trial in vomiting during or after anesthesia. This form of vomiting being due to reflex action or to swallowed mucus, the local anesthetic as well as sedative influence of chloretone ought *a priori* to be of value. Following this line of thought, Dr. Louis J. Hirschmann<sup>1</sup> experimented with chloretone by giving 10 to 15 grn. half an hour before anesthesia. The drug may be given dry on the tongue or in capsules. Sixty cases were observed, thirty receiving chloretone, the other thirty being anesthetized in the usual way, to compare results.

Patients who had taken chloretone required one-third to one-half less of the anesthetic than the others. None of the thirty treated with the remedy were nauseated during anesthetization, and very few vomited afterwards. Comparing these results with those obtained with the other thirty patients, 80 per cent. of whom had nausea and vomiting, the favorable influence of chloretone is striking. The drug is now used as a routine measure at the Harper Hospital, Detroit, Mich., where the author conducted his experiments.

**LOCAL ANESTHESIA IN THE EAR, NOSE, AND THROAT**

Dr. Albert A. Gray<sup>2</sup> describes a new method of obtaining local anesthesia in the ear, nose and throat. For the ear, he uses simply a 10-per-cent. solution of cocaine in a mixture of equal parts of alcohol and anilin oil. [Anilin oil, so called, is the French *huile d'anilin*, the German *anilinöl*, and in this country simply anilin.] This produces perfectly satisfactory results in the ear, but not in the nose and throat. The author, therefore, modified his mixture by adding beta-eucaine to the cocaine solution. He makes two solutions: (1) a 20-per-cent. solution of cocaine hydrochlorate in

<sup>1</sup> *Therap. Monatsh.*, June, 1901.

<sup>2</sup> *Canad. Jour. Med. and Surg.*, 1901, p. 433.

<sup>1</sup> *N. Y. Med. Jour.*, LXXII, No. 24.

<sup>2</sup> *London Lancet*, No. 4045.

rectified spirit; (2) a 15- to 20-per-cent. solution of eucaine in anilin oil. Before use, equal parts of each are mixed. The method of application will vary according to the region.

In treating the ear, it is advisable to soak a small strip of gauze in the mixed solution and push it in through a speculum. For the nose and throat the author uses a probe carrying a pledget of cotton-wool saturated in the solution. This is then gently rubbed into the parts to be anesthetized. After a period of at least seven minutes the anesthesia is complete. Under no circumstance is more than 20 minims of the mixed solution used. The gentle rubbing enhances the efficiency of the anesthetic.

The author himself never encountered symptoms of intoxication, but he has heard of two cases in which such untoward effects were observed. The one case recovered in the course of an hour or two. The other occurred in a child of six years. The solution was dropped into the meatus until this was full. In about an hour the child's lips became blue and symptoms of a mild gastric catarrh appeared. Recovery followed in a few hours. This peculiar blue color of the lips has been often observed one to two hours after the cocaine application. It passes off after a few hours and leaves no effects.

Prof. Stockman considers the cyanosis due to the change of hemoglobin into methemoglobin. It may be avoided by limiting the dose to 20 minims for adults, and correspondingly smaller doses for children, who, it should be borne in mind, tolerate cocaine poorly.

#### TREATMENT OF SCARLATINAL NEPHRITIS

According to Dr. Charles G. Kerley<sup>1</sup> the dangers of nephritis in scarlet-fever are not sufficiently appreciated. Every case, whether mild or severe, ought to be treated as if nephritis were expected. A child with scarlet-fever is to be considered ill for five to six weeks, even if no complications are present. The first three weeks must be spent in bed, the temperature of the room varying between 68° to 72° F.

If nephritis has developed, the physician is very apt to overtreat the child. Heroic drugs, like digitalis and pilocarpine, are only too often indiscriminately prescribed as a routine measure. Irritant cathartics are also to be used cautiously, as well as the diuretic salts of potassium. First of all measures comes the regulation of diet. Only milk, broths, and thin gruels are per-

missible. An exclusive milk diet is not advisable, since it is liable to derange digestion. Lime-water and thin gruels may therefore be added, or the milk may be peptonized. Alcohol in any form should be interdicted. The bowels are to be kept open by fractional doses of calomel, say  $\frac{1}{10}$  grm. every hour for ten doses, repeated every three or four days.

Small doses of aconite,  $\frac{1}{4}$  minim of the tincture every two hours, to a child of three are usually prescribed and act beneficially by producing moderate diaphoresis. Besides, aconite is a diuretic, according to the author. Another diaphoretic measure is the hot-air bath or the hot-water bath (108° F.). Care should be taken to avoid exposure while employing the latter.

The author has found a remedy *par excellence* in flushing the colon with hot salines. To a child of three years, 16 to 24 oz. of normal salt solution at 110° F. may be given per rectum, to be retained, and repeated every six to eight hours. The results will be found very satisfactory, the kidneys beginning to act after three to five flushings.

The convalescent child should be kept in bed until the urine has been normal for two weeks. [In reference to "normal" salt solution, see "Editor's Notes," this issue.]

#### INFLUENZA AND ITS TREATMENT

Influenza is one of the most protean diseases, attacking so many different organs and in such various complications as to render the clinical picture unstable and shifting within very wide limits. The infectious character of the disease is definitely established; the exact mode of transmission, however, still remains unknown. The results of his personal experience led Dr. Wm. Bayard Shields<sup>1</sup> to believe in direct transmission from person to person. The assertion that malaria and influenza are to a degree antagonistic, and that the more ozone the more influenza and the less malaria, is not borne out by the author's observations. As to the mode of development, he has never observed the disease to begin with gastro-intestinal disturbances. These always come on later, following the respiratory and other symptoms. The usual beginning is in the lungs as bronchitis, or in the nose and throat as coryza, also as an attack of rheumatism. Most frequently the frontal sinus is affected, and this is manifested by most violent pains.

These cases of frontal sinusitis due to influenza generally recover without surgical interference. The maxillary sinus is less

<sup>1</sup> *Med. News*, LXXVIII, No. 24.

<sup>1</sup> *St. Louis Med. Rev.*, XLIII, No. 7.

frequently affected than the frontal. The sphenoidal sinus is also often attacked. In the ethmoidal cells the after-effects of the disease are most pronounced, and often require operative treatment. The laryngeal manifestations are acute laryngitis and occasionally disturbances of phonation due to an affection of the recurrent nerves. The most dangerous complications of influenza are the pulmonary—pneumonia and tuberculosis—to which the disposition is very marked after an attack of influenza.

The treatment is anything but satisfactory or uniform. Quinine, calomel and iodine have the author's preference over all the other numerous remedies tried in the disease. He is in the habit of giving 10 grm. of quinine every night and morning, with a teaspoonful of dilute hydrobromic acid to guard its action on the nervous system. For nervous depression, the author has found phosphorus superior to strychnine. Sodium benzoate he considers to be very beneficial in relieving the bronchial symptoms, as is also ammonium chloride, which, moreover, acts to advantage on the liver. Of the opium preparations, Dover's powder and codeine are recommended. As to the coal-tar derivatives so extensively employed in this disease, the author is decidedly against their use. He has seen very deleterious results follow their administration. Their heart-depressing properties alone should suffice to exclude them from the list of remedies in la grippe.

#### CHLORMETHYL-MENTHYL-ETHER IN CORYZA

Prof. Seifert<sup>1</sup> recommends chlormethylmenthyl-ether ( $C_{11}H_{21}OCl$ ) as a means of aborting beginning coryza and shortening the duration of the developed disease. The remedy is applied to the nasal chamber on pellets of cotton, or it may be used by inhalation. The action is due to the formation of menthol and formaldehyde through splitting up of the chemical.

#### ALCOHOL COMPRESSES IN APPENDICITIS

Professor Filatoff<sup>2</sup> has for a long time advocated the abortive properties of alcohol during the first period of periostitis. If the diseased member be soaked for half an hour in alcohol, and this little local bath repeated several times daily, the trouble will subside promptly. This consideration suggested to the author the employment of alcohol compresses in a case of appendicitis in a boy of twelve years. A gauze compress folded four times and large enough to cover the whole abdomen was soaked in 93

per cent. alcohol and lightly squeezed out before being applied directly to the skin. A piece of flannel covered the gauze and an ice-bag was placed over the whole. The gauze compress was changed whenever the alcohol had evaporated. Internally opium was administered at the same time. At the end of two to three days marked improvement took place, and the boy soon recovered completely.

#### ICHTHARGAN AND ICTHIFORM

Dr. P. G. Unna<sup>1</sup> reports the results obtained from ichthargan and ichthoform, which he employed in his clinical as well as his private practice. Of the different silver compounds, only the nitrate had been used extensively in dermatology, the latter either by itself or in combination with balsam-of-Peru ointment. The author tried replacing this combination by ichthargan, which he prescribed as a dusting-powder of 1-per-cent. and 5-per-cent. strength, combined with talcum as a base, in treating leg-ulcers. The largest, oldest, and most obstinate ulcers were first subjected to this treatment, and the results obtained showed very strongly the reducing and disinfectant properties of ichthargan. Different from silver nitrate, it does not favor the growth of granulation tissue; on the other hand, it does favor the production of epithelium and its hardening, thus proving itself a specific keratoplastic remedy. The best results were therefore noted in clean ulcers, on the one hand, and in very old, hard ulcerations with callous, immovable margins covered with epithelium, on the other hand. In this latter class of cases desquamation of the horny epithelium was first brought about by means of salicylic plaster-mulls. Finally, ichthargan dusting-powder was found to be a strong astringent in indolent, edematous, or hemorrhagic granulations.

The second preparation, ichthoform, is a combination of ichthyol with formaldehyde. It possesses strong astringent properties, as shown by its value as an intestinal astringent. The first series of experiments was made with a simple 1-per-cent. ichthoform-vaseline salve in eczema capitis of children. The results were not encouraging, the ointment proving too irritating. A second series of experiments was therefore commenced with a 1-per-cent. ichthoform-zinc-oxide paste, and far better results were obtained. Comparative tests with this paste, and a similar one with sulphur instead of ichthoform, showed that the sulphur paste produced more rapid desiccation and healing in all moist, diffuse, and inflamed eczematous surfaces. In dry eczema of

<sup>1</sup> *Munch. med. Woch.*, XLVIII, No. 17.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 7.

<sup>1</sup> *Monatsh. f. pract. Dermatol.*, XXXII, No. 2.

the papulous or papulo-vesicular form and seborrheic type, as well as in seborrheic eczemas, the sulphur paste gave better results. On the other hand, the ichthoform paste was superior as regards rapidity and completeness of cure in the psoriasis eczemas of seborrheic origin and in the pityriasis form of eczemas, which present circumscribed, papulo-vesicular spots.

It would appear, therefore, that in ichthoform we possess a formaldehyde compound in which the irritating properties of formaldehyde have been sufficiently reduced by the combination with ichthyol to allow of its application to the skin and utilization of its disinfectant and hardening qualities. Since, however, its hardening properties always lead to a superficial necrosis, ichthoform can be used only in such affections as require or will tolerate the desquamation of the horny layer.

#### TREATMENT OF LARYNGEAL TUBERCULOSIS AT THE MONTEFIORE HOME (N. Y.)

The treatment of this disease has become, according to Dr. W. Freudenthal,<sup>1</sup> much more hopeful of late. Preceding the outbreak of laryngeal tuberculosis there is a stage which the author calls "pretuberculous laryngitis." At this time no ulcerations and tubercles are as yet formed, and if proper treatment is instituted the disease can often be checked. The remedies used during this stage are various and comprise insufflations with various antiseptics, applications of silver nitrate, liquor ferri chloridi, balsam of Peru, etc.

As soon as an erosion or an ulceration makes its appearance, the case has to be treated as one of tuberculosis. Here the usual general measures hold good (pure air, diet, rest-cure, etc.), but the main point is the local treatment.

The local remedy par excellence during the last decade has been lactic acid. The disadvantages of this treatment, however, are so serious that lactic acid has lost its old prestige. A new method of the author's is the treatment with a menthol-orthoform emulsion. After cleansing the larynx with an indifferent spray and insufflating a powder of saccharated suprarenal gland to produce anesthesia, the author's menthol-orthoform emulsion is applied. It is made up as follows:

Menthol.....	1, 5, 10 or 15	Gm.
Expressed Oil Almond.....	30	Gm.
Yolk of Egg.....	25	Gm.
Orthoform.....	12.5	Gm.
Distilled Water.....	to make 100	Gm.

The orthoform, acting as an anesthetic,

relieves the pain and difficulty in swallowing for a period of time lasting from a few hours to a few days.

The menthol, in its turn, relieves cough and secretion. The author begins with 1 per cent. of menthol and reaches, as quickly as toleration of the patient will allow, 10 per cent., and occasionally even 15 per cent. The results of this method have been most satisfactory. Pain is relieved, the ulcerations are allowed to heal, and enjoyment and prolongation of life made possible, even in cases too far advanced to be cured.

The injections of the menthol emulsion should be made slowly and carefully, to prevent its expulsion by coughing.

There are patients, however, who from lack of energy and from exhaustion will not tolerate anything, not even cocaine. They gag and vomit on the slightest provocation. In these cases the author has employed olive oil to lubricate the esophagus and thus relieve the dysphagia. As much as a glass of the oil may be given a half hour before the morning meal. The effects have been good in some cases, although the method is anything but agreeable to the patient.

As a last resource in treating laryngeal tuberculosis, the author mentions phototherapy, or treatment with electric light or sunlight, and promises to publish his experience with this method in the near future.

For the symptomatic treatment of the cough, which is a most distressing symptom of laryngeal tuberculosis, heroin is warmly recommended and given the preference over morphine and codeine.

#### CALOMEL AS A DIURETIC

Prof. Leyden<sup>1</sup> calls attention to the great value of calomel as a diuretic, and he describes a case in which the drug may be said to have saved the life of the patient. The symptoms that the patient presented were like those of Bright's disease: dropsy, diminished urine, and traces of albumen; but no sediment and no cardiac hypertrophy. The enlargement of the spleen and the entire picture of the disease pointed to amyloid degeneration. She was treated with numerous and diverse remedies, was tapped several times, but without any effect on the disease.

The secretion of urine was constantly diminishing, the anemia became severe, and at last uremic vomiting and stupor made their appearance. The patient's life was in imminent danger. Calomel in moderate

<sup>1</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 11.

<sup>1</sup> *Klin.-therap. Woch.*, VIII, No. 17.

doses was administered and by the sixth day the patient was greatly improved. But on account of symptoms of mercurialism having made their appearance, the calomel was discontinued and in a few days the condition became as bad as before. Four times the calomel was discontinued and resumed, with results exactly like the above. It is worthy of note that neither calomel in the form of suppositories nor hypodermic injections of corrosive sublimate had any effect in increasing diuresis.

In conclusion the author says that calomel is a good diuretic in dropsies, especially in those of cardiac or hepatic origin. It is not indicated in nephritis with albuminuria.

#### IDIOSYNCRASY TO QUININE

Prof. H. A. Hare<sup>1</sup> reports a case of very severe idiosyncrasy. A man, aged fifty-three years, was ordered 2 grn. quinine with  $\frac{1}{60}$  grn. arsenic, three times daily, as a tonic during convalescence. Twelve hours after the first pill an intense erythema appeared all over the body, with itching and puffiness of the face. Abundant desquamation followed, very similar to that of scarlet-fever, and continued for weeks. So susceptible was this patient to quinine that he had on one occasion developed an intense erythema after taking a cocktail which contained some elixir of calisaya! It is of interest to note that the man's daughter has inherited the same idiosyncrasy.

Under certain circumstances the erythematous rash after quinine may be mistaken for scarlet-fever, especially in view of the abundant desquamation following both.

#### EXT. HIPPOCASTANI FLUIDUM

Dr. B. Schürmayer<sup>2</sup> has used the fluid extract of horse-chestnut in a series of cases of rheumatism, neuralgia, and other painful affections of the skin with good results. The fluid extract was rubbed in the affected parts either undiluted, or diluted with water or chloroform, or in the form of a plaster. Even the undiluted extract produced no irritation of the skin, nor were there any toxic manifestations after its use for weeks in the undiluted state. Used as a gargle in 1- or 2-per-cent. solution, no symptoms of irritation were noticed.

#### AIROL IN THE TREATMENT OF WOUNDS

Dr. Honsell<sup>3</sup> reports his observations on the use of v. Bruns's airol paste in treating wounds. The paste is perfectly unirritating and non-toxic, dries rapidly, and adheres

firmly, and possesses hygroscopic and antiseptic qualities which render it superior to any other vulnerary preparation. The accumulation of secretions between the skin and the application, as seen occasionally under the treatment of wounds with dusting powders, has never been noticed when the airol paste was used—a proof of its hygroscopic properties. Furthermore, the paste is equally adapted to all parts of the body and the dressings cannot become loose or movable. V. Bruns gives the following formula:

Airol.....	1	dr.
Mucilage.....	2	dr.
Glycerin.....	2	dr.
Argilla Alba (Kaolin).....	sufficient to make a soft paste	

If the paste becomes too dry, glycerin may be added; if it be too soft, kaolin should be rubbed up with it. No metal instruments should be employed in preparing the paste, since many metals liberate iodine from airol. For the same reason no water, but always glycerin, is to be used in the preparation. The paste is preserved in well-stoppered glass or porcelain jars, which are not to be left open after use.

#### TREATMENT OF ACUTE RHEUMATISM

In the salicylates we possess a specific remedy for acute rheumatism. The exact mode of action is unknown, but whatever it may be, whether antiseptic or antitoxic or sedative, its certain and efficient action cannot be doubted. A. P. Luff<sup>1</sup> insists on the importance of sufficient dosage: 20 grn. every two hours until the subsidence of acute symptoms, then smaller doses for at least two weeks longer; otherwise relapses are liable to occur. Alkalies are beneficial and probably tend to prevent cardiac complications. Thirty grains of potassium bicarbonate every two hours, gradually decreased, are recommended. The use of calomel will often obviate the untoward effects of the salicylates. Of these the sodium salt is the most efficient, though occasionally salicin is better tolerated. Absolute rest in conjunction with warm clothing and fluid diet are necessary. Pain in the joints is best relieved by external application of methyl salicylate.

Hydrotherapy may be required in dealing with hyperpyrexia.

#### PRESENT THERAPY OF SYPHILIS

Klingmüller,<sup>2</sup> the first assistant in Neisser's clinic in Breslau, has written a very interesting résumé of the present therapy of syphilis. Neisser, Lang, Lesser, and

<sup>1</sup> *Therap. Gaz.*, xxv, No. 5.

<sup>2</sup> *Therap. Monatsh.*, June, 1901.

<sup>3</sup> *Deut. med. Woch.*, xxvii, No. 17.

<sup>1</sup> *Practitioner*, 1901, No. 1.

<sup>2</sup> *Montreal Med. Jour.*, xxx, No. 4.

others hold that syphilis is due to a form of bacterium, the syphilis bacterium, and that the secondary and tertiary symptoms are due to outbreaks of bacterial activity. Syphilis is a chronic disease and the treatment must be essentially chronic in character. Mercury is a specific for these syphilitic processes, and hence should be used in all stages of the disease. The iodine salts are merely eliminants of the products of the bacterial action.

The treatment should be conducted in courses, at intervals spread over four years or more, without at any period awaiting the outbreak of special symptoms calling for treatment. Neisser prefers inunction treatment alternately with subcutaneous injections, the inunction being preferable in winter and the injections in summer. Treatment is started with energetic inunction of 1 dram of blue ointment, repeated thirty or thirty-five times, or else by ten injections. Internal administration of mercury is avoided if possible, mainly on account of the disturbing action on the intestinal tract. One has to be on the lookout for a mercurial idiosyncrasy, which is most frequently found in alcoholics and anemic individuals. One has to be careful if there is a tuberculous dyscrasia, and the minimum dose has to be followed out in these cases.

From a series of investigations conducted in Neisser's clinic and elsewhere, it would seem that in the inunction treatment the main absorption of the mercury is by the lungs, only comparatively little mercury being absorbed through the skin. The great point in favor of inunction is that the amount absorbed into the system can be readily governed, and the appearance of unpleasant symptoms avoided. The chief drawback is the occurrence of a mercurial dermatitis.

As to the subcutaneous injections, two forms of mercurial salts are used, the soluble and insoluble. The soluble salts, the cyanide of mercury, oxycyanide, and sublimate, are rapidly absorbed, and hence have to be injected daily; whereas the insoluble salts form, as it were, a subcutaneous deposit, from which there is a slow, continuous absorption, and the injections are accordingly made only every four or five days. The insoluble salts used are: mercury salicylate, which is the mildest in action; then follows the thymol-acetate of mercury, a little stronger; and finally the yellow oxide, which is the strongest.

As to the iodine treatment, the iodides of potassium, sodium, or rubidium, preferably in large doses, are used mainly in the tertiary stage. Neisser uses iodipin, an oily, 10- to 25-per-cent. compound of iodine. It

is administered frequently by the mouth, but preferably subcutaneously in the gluteal region, dosage being 20 Cc. for ten days, or on every second or third day. It does not cause iodism and is safe, energetic and lasting. The iodine appears in the urine and sputum in from two to five days, and can be detected for weeks after.

#### FOR THE SALIVATION OF ETHER NARCOSIS

As is well known, the salivation following ether anesthesia is frequently exceedingly troublesome, and this excessive secretion of mucus is often the cause of bronchitis, pneumonia, etc. Dr. W. Reinhard<sup>1</sup> says that in the hospital with which he is connected atropine has been found to be an excellent preventive. Three-quarters to one hour before the anesthetization a hypodermic is given of the following solution:

Atropine Sulphate .....	1/6 grn.
Morphine Hydrochlorate .....	3 grn.
Distilled Water .....	2 1/2 dr.

The dose to be injected varies with the condition and the age of the patient, from 8 to 16 minims (containing approximately atropine,  $\frac{1}{120}$  to  $\frac{1}{60}$  grn., morphine,  $\frac{1}{6}$  to  $\frac{1}{3}$  grn.).

#### ICHTHYOL AND COLLODION IN ERYSIPELAS

Erysipelas is treated with almost uniform success in the City Hospital, states a contemporary,<sup>2</sup> by the local application of equal parts ichthyol and collodion. The inflamed surface is painted liberally, and the application extended an inch beyond the spreading margin. The patient, of course, presents an unsightly appearance while he is under treatment, but no other method has been found so satisfactory, and it seldom fails to control the disease at once.

#### HERMOPHENOL, A NEW ANTISEPTIC

Hermophenol, or hermophenyl, is the sodium salt of mercury phenol-disulphonic acid. It is a white, amorphous powder, soluble in 5 to 7 parts of water, and is said to contain 40 per cent. of mercury. It is strongly bactericidal, without producing a caustic effect on the hands or mucous membrane. Dr. L. Bérard<sup>3</sup> says that for disinfecting purposes a soap containing 1 per cent. of hermophenol is excellent. He also recommends it for the ophthalmia neonatorum in 3-per-cent. solution, instead of silver nitrate or protargol. Cotton and gauze saturated with a solution can be heated to 120° C. without decomposing the compound.

<sup>1</sup> *Therap. Monatsh.*, May, 1901, p. 276.

<sup>2</sup> *Interstate Med. Jour.*, May, 1901, p. 179.

<sup>3</sup> *Bull. méd.*, May 4, 1901.

# MERCK'S ARCHIVES

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SUCH confused ideas seem to prevail regarding the terms *normal* saline solution and *decinormal* saline solution, and we have received so many requests asking us to shed light on the subject, that a full and clear explanation will probably be acceptable. The confusion arises from the different meanings the word "normal" possesses in chemical and in physiological terminology. In chemical analysis we designate as a normal solution one which contains in each liter (1,000 Cc.) a number of Grams of the reagent equal to its molecular weight (and reduced to the valency of one). Thus the molecular weight of hydrochloric acid is 36.4 and a normal solution of hydrochloric acid is one which contains in each liter 36.4 Gm. of absolute hydrochloric acid. The molecular weight of sodium chloride is 58.4 ( $\text{Na} = 23$ ,  $\text{Cl} = 35.4$ ), and a normal solution will contain 58.4 Gm. of the salt to each liter. A *decinormal* (deci = one-tenth) solution is one containing one-tenth of what the normal solution contains, in this case 5.84 Gm. Now it just happens (a mere coincidence) that a salt solution of about that strength ( $5\frac{84}{100}$  Gm., or, in round numbers, 6 Gm. to 1,000 Cc.) is physiologically a normal solution—i.e., has about the same density and osmotic properties as blood serum. Hence it is that what is chemically a decinormal solution is physiologically a normal solution, and hence the substitution of terms and confusion. But we should always remember that when we speak of injecting or transfusing a normal saline solution we refer to a 0.6-per-cent. (occasionally we use a 0.7-per-cent.) solution: one containing 6 Gm. to the liter of distilled water, or about 44 grn. to the pint, or 88 grn. to the quart. If a 0.7-per-cent. solution is pre-

ferred, the quantities would be 7 Gm. to the liter, 51 grn. to the pint, or 102 grn. to the quart. It is well to note that a somewhat greater or lesser concentration does not interfere with the efficiency of the solution, and where scales are not at hand, a small teaspoonful of salt added to a quart of water will answer the purpose. Some physicians prefer to use a combination of several salts, such as sodium chloride, potassium chloride, sodium phosphate, etc. We will give the various formulas used in another issue.

\* \*

SHOULD antipyretics be used in fevers? The physician who gives powerful antipyretics as a routine practice in every case of pyrexia, and thinks he has done his whole duty if he has succeeded in bringing down the mercurial column two or three degrees, shows a lamentable lack of judgment, indeed. But on the other hand, those faddists—because faddists they are—who cry out against the use of antipyretics under any circumstances are not much better. What is their argument? Fever, they say, is not the cause of the disease; it is the effect, the result. And how absurd it is to try to remove the effect, instead of trying to remove the cause! Perfectly true. The fever is not the original *causa peccans*; it is the result of infection, nervous disturbance, or disordered metabolism. But the anti-antipyretists seem to forget that an *effect* of a morbid condition may itself become the *cause* of further morbid conditions and derangements. A sluggish liver will produce constipation; the constipation itself, if unrelieved, will produce results far more disastrous than the constipation itself. The retained fecal matter will cause auto-intoxication. And an enema or colonic irrigation is most decidedly indicated, though it is not directed to the original cause of the trouble, the sluggish liver. Of course we are not debarred from turning our attention to the liver at the same time. Similarly with fever. Hyperpyrexia if allowed to persist for any length of time may cause irreparable damage, because the heat has a destructive, disintegrating, and paralyzing effect on the nervous centers, on the heart, and on the muscular tissue in general. It therefore becomes our imperative duty to reduce the fever at all hazards, after it has reached certain limits. And frequently this can be most quickly and most certainly accomplished by the aid of a medicinal antipyretic. Of course, this does not mean that discretion is to be thrown to the winds. On the contrary, the greatest care and watchfulness are to be employed, and as a general rule a cardiac tonic is to be administered conjointly.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

J. B. B. and C. W. M. ask for a treatment for Hay-fever, which could be used with confidence and certainty of success. Something that might be termed a specific.

We know of no specific for hay-fever, for the simple reason that there is none. Still, in the present state of our knowledge, we may, with *judicious* treatment, cure or relieve practically all cases of hay-fever or hay-asthma (also known under the names rose-cold, hyperesthetic rhinitis, and catarhus æstivus). We must remember that there are at least three factors in the causation of hay-fever: one exciting and two predisposing. The exciting factor is the pollen of rag-weed and golden-rod, the odor of roses and other flowers, dust and smoke, and the dust of certain drugs, like ipecac, veratrum viride, capsicum, salicylic acid, etc. The predisposing factors are a neurotic constitution and a hyperesthesia or other abnormality of the nasal mucous membrane. Each of the factors must therefore be attended to. To avoid the irritation of the odor of flowers and the pollen, a change of climate is sometimes absolutely necessary. As a rule, the seashore or a high altitude or places where the land is not cultivated are suitable. But as only a limited number of people can afford a change of climate and locality, we must apply our resources to the predisposing factors. As a sedative for the nervous system, the valerianates of quinine, iron, and zinc, with or without arsenic, will prove useful. The following formulæ are serviceable:

Arsenous Acid .....	$\frac{1}{100}$ grn.
Quinine Valerianate .....	1 grn.
Iron Valerianate .....	3 grn.
Zinc Valerianate .....	2 grn.

For one pill or capsule. One three times a day.

Copper Arsenite .....	$\frac{1}{100}$ grn.
Iron Valerianate .....	3 grn.
Zinc Valerianate .....	2 grn.

For one pill or capsule. One three times a day.

Locally, the number of applications to the nose is very large and varied. Cocaine is undoubtedly and immediately useful. True, it is only a palliative measure, but the suffering of the patient is frequently so intense that he is very grateful even for temporary relief. The cocaine may be used by spray, or applied on pledgets of cotton or insufflators in the form of a fine powder.

The following is a good formula for insufflation:

Cocaine Hydrochlorate.....	4 grn.
Boric Acid (chem. pure; finely	
powd.).....	60 grn.
Sodium Borate (finely powd.)....	20 grn.
Milk-Sugar (finely powd.).....	20 grn.

Insufflate small quantity into each nostril.

If a solution is used, the cocaine is best used in conjunction with boric acid:

Cocaine Hydrochlorate .....	10 to 20 grn.
Sat. Solut. Boric Acid.....	2 oz

Use as a spray or on cotton.

Remember not to prescribe cocaine hydrochlorate in solution in conjunction with sodium borate (borax), because borax precipitates the cocaine. Oily sprays are also useful, and one of the best formulas is the following:

Cocaine (Alkaloid, not the Salt)	3 grn.
Thymol .....	$\frac{1}{2}$ grn.
Eucalyptol .....	2 min.
Petrolatum Liquid (highly purif.)	1 oz.

Spray frequently.

About two years ago the suprarenal gland was recommended in the use of hay-fever, on account of its powerful vaso-constricting properties. At the time of its introduction it was hailed as an absolute specific. It is not a specific; we have seen several cases in which it failed to do a particle of good. Nevertheless, it is one of our best remedies in hay-fever, and the number of patients that are relieved or permanently cured (for the season) by the adrenals is quite large. It should in fact, perhaps, be the first remedy to be tried in hay-fever. A good formula for its application is as follows:

Dried Suprarenal .....	1 dr.
Boric Acid .....	10 grn.
Resorcin ....	1 grn.
Camphor Water .....	$\frac{1}{2}$ oz.
Water (Hot) .....	to make 2 oz.

The suprarenal is macerated two to three hours and then filtered. This solution keeps undecomposed for two to three months. Instead of this solution, the solution of adrenalin chloride (1:1,000 to 1:10,000), recently introduced by Parke, Davis & Co. may be used.

Finally, there remains a class of patients, who are quickly and permanently cured by galvano-cauterizing the nasal mucous membrane, or by some other operation on the nose, as the removal of polypi.

J. B. H. writes: In my country practice I have hundreds of cases of Ivy and Oak Poisoning to treat every summer and fall. I treat them with solution of lead acetate, or lead and opium wash, or sodium bicarbonate, and have fair success. But some cases are very obstinate and do not yield to treatment. I am often at my wits' end to relieve the intense itching and severe swelling. If you know of and can instruct me as to a more effective or quicker treatment, I would feel greatly obliged, and so, I am sure, would other readers of



the ARCHIVES who have much to do with this annoying affliction.

There are several remedies which are prompt and effective in the treatment of ivy poisoning. Some of them are so certain as to be dignified by many physicians with the name of specifics. Spirit of nitrous ether (sweet spirit of niter) is one of these drugs. It is generally applied clear on cloths. A few drops of solution of lead subacetate may be added to each ounce of the spirit. At the same time a good saline laxative, like Epsom or Rochelle salt, is to be given internally. From personal experience we know that this treatment is very effective. Another good drug, which is highly recommended, is *grindelia robusta*. From 1 to 4 drams of the fluid extract, mixed with 6 oz. of water, is applied on cloths and changed frequently. From 2- to 5-drop doses of the fluid extract may also be given internally at the same time, every three or four hours. Another highly valued application is a saturated solution of sodium hyposulphite, or sodium sulphite. Other drugs recommended are ammonium chloride, lead and opium wash (in our experience good only for very mild cases), corrosive sublimate, 1:1,000 to 1:5,000; ichthyol, 10 per cent. ointment or solution; saturated solution lead acetate (rather dangerous—risk of lead intoxication), yellow or black wash, etc. It is well to bear in mind that after the wet applications have been used for a day or two—that is, after the greater part of the swelling and the itching have been allayed—a dry powder or an ointment will usually prove more serviceable.

It is also well to remember that frequently a person once infected by ivy will show symptoms of poisoning every year, at about the time the infection took place, for many years to come. Such persons must be treated constitutionally: small doses of sulphur and cream of tartar, of sodium salicylate, or of fluid extract of *pilocarpus* (*jaborandi*) will prove useful. A number of formulas will be found in the "Prescriptions" department this issue.

J. B. A. asks for some information as to the chemical and physical properties of Protoxid d'Azote, which he thinks is a new remedy.

Protoxid d'Azote is French for nitrogen monoxide, or laughing gas,  $N_2O$ . This substance is of course too well known to need description.

A. E. R. asks for a clear and simple explanation of the difference in the chemical constitution of Morphine, Codeine, Dionin, and Heroin.

The formula of morphine is  $C_{17}H_{19}NO_3$ . Codeine is methyl-morphine—that is, mor-

phine in which one hydrogen is replaced by the radical methyl ( $CH_3$ ):  $C_{17}H_{18}(CH_3)NO_3$ , or  $C_{18}H_{21}NO_3$ . Dionin is ethyl morphine—that is, morphine in which one hydrogen has been replaced, artificially, by the radical ethyl ( $C_2H_5$ ):  $C_{17}H_{18}(C_2H_5)NO_3$ , or  $C_{19}H_{23}NO_3$ . It is thus seen that the relationship between codeine and dionin (ethyl-morphine hydrochlorate) is a very close one. Heroin is diacetyl morphine—that is, morphine in which two atoms of hydrogen have been replaced by two acetyl groups ( $C_2H_3O$ ). Its formula is:  $C_{17}H_{17}(C_2H_3O)_2NO_3$  or  $C_{21}H_{23}NO_5$ .

J. B. C. asks for full information regarding the properties—chemical, physical, and therapeutic—of Amylene Hydrate and Amylene-Chloral, or Dormiol.

Amylene hydrate is chemically dimethyl-ethyl-carbinol, or tertiary amyl alcohol— $C_8H_{18}O = (CH_3)_2C(C_2H_5)OH$ . This is a clear, colorless liquid, having a penetrating odor and ethereal camphoraceous taste. It is soluble in 8 parts of water and in all proportions in alcohol, ether, chloroform, and glycerin. The dose is from 15 to 30 minims as an antispasmodic, and from 30 to 90 minims as a hypnotic. It was introduced to the profession by Von Mering in 1887 and is one of our very best and safest remedies for producing sleep. According to Potter, it is one of our most valuable hypnotics, in power standing between chloral and paraldehyde, but being much more agreeable to the taste and safer than either of those agents. In medicinal doses it leaves behind no unpleasant effects and has no perceptible influence on the heart or respiration. Besides being one of our safest and purest hypnotics, it is also one of the promptest. According to Bartholow, the hypnotic effect follows the administration of amylene hydrate in from five to fifteen or twenty minutes, and is rarely postponed for an hour; and if produced by ordinary medicinal doses no change takes place in the rhythm and force of the cardiac movements, nor in the respiratory movements. He states further: "Amylene hydrate apparently deserves attentive consideration as a hypnotic. Where insomnia is the main condition and no other sources of disturbance exist, it is one of the most promising remedies. While all hypnotics will fail to produce any effect in a certain number of cases, the percentage in which amylene hydrate is unsuccessful is rather small. Scharschmidt found it successful in 80 per cent. of his psychiatric patients—a class of cases in which it is notoriously difficult to induce sleep."

Amylene-chloral, or dormiol, is a com-

bination in molecular proportions of chloral and amylene hydrate. It combines in itself the hypnotic properties of chloral and amylene without sharing the dangerous cardio-depressant effects of the former. It is a clear, colorless liquid, of a camphoraceous taste. As it mixes very slowly with water—several hours being taken before a homogeneous solution is obtained—it appears on the market in the form of a 50-per-cent. solution only. It is administered as a rule in the form of a 10-per-cent. solution. The dose of the 10-per-cent. solution is a teaspoonful to a tablespoonful. It is not a powerful hypnotic, and is indicated in conditions of simple agrypnia, not caused by severe pain, etc. The sleep, as a rule, supervenes rapidly, and is as free from any by- or after-effects as is natural sleep.

Z. T. B. states that he prescribed Ichthyol and Hydrochloric Acid, 4 drams of each, to be taken in 10-drop doses in water, after meals. A heavy precipitate formed, which made the dropping impossible. Some information as to the cause of this precipitation is desired.

Ichthyol is incompatible with strong mineral acids; they should never be prescribed in the same mixture. Ichthyol, as is well known, is chemically ammonium sulpho-ichthyolate—that is, it is a combination of sulpho-ichthyolic or (ichthyol-sulphonic) acid with the radicle ammonium. A strong acid decomposes the ichthyol, liberating the ichthyol-sulphonic acid, which, being insoluble in water, precipitates. The alkaline hydrates and carbonates, the alkaloids, and iodine are also incompatible with ichthyol.

A. N. D.—Of course, Cocaine Hydrochlorate is absolutely *incompatible* with Silver Nitrate, because the silver is precipitated in the form of a chloride. The alkaloid cocaine cannot be used in this instance either, because it gives a black precipitate of silver oxide. If the two chemicals must be used conjointly, use the cocaine nitrate. This is perfectly compatible with silver nitrate. Even this solution, though, if kept for a long time, will show a blackish discoloration and precipitate, on account of the action of the organic cocaine on the silver.

T. J. R.—While we have had no personal experience with various Hair Dyes, the following formulas are said to yield satisfactory preparations:

- (a) Pyrogallic Acid ..... 8 grn.  
Acetic Acid ..... 2 fl. oz.  
Alcohol ..... 1½ fl. oz.
- (b) Silver Nitrate ..... 2 dr.  
Copper Nitrate ..... 12 grn.  
Water ..... 2 fl. oz.  
Ammonia Water ..... sufficient

Dissolve the silver and copper salts in the

water, and add ammonia water gradually, constantly stirring, until the precipitate at first formed is redissolved, and the liquid is clear and transparent. The solutions are applied as follows: The pyrogallic-acid solution is first applied to the hair with a stiff brush (a tooth-brush, for instance); when partially dry the silver solution is applied in the same manner with another brush. The shade of brown desired can be regulated by the amount of pyrogallic acid used; if a very dark brown is desired, the amount of pyrogallic acid should be increased, and vice versa.

Another combination is as follows:

- (a) Pyrogallic Acid ..... 72 grn.  
Alcohol ..... 2 fl. oz.  
Water ..... 4 fl. oz.
- (b) Silver Nitrate ..... 1½ oz. av.  
Ammonia Water ..... 1 fl. oz.  
Sodium Carbonate (pure) 99 grn.  
Distilled Water ..... sufficient

Dissolve the silver salt in 4 fl. oz. of water, and add ammonia water until the precipitate at first formed is redissolved. Dissolve the sodium carbonate in this solution, and add enough water to make 6 fl. oz. Allow to stand for a few days, and then decant the clear liquid. This solution is applied in the same manner as the first formula.

F. C. E.—The dose of pelletierine tannate for tapeworm is considered to be from 8 to 24 grn. A cathartic should be administered in two hours after the pelletierine tannate. One of the most appropriate cathartics in this case is magnesium sulphate (1 oz. dissolved in about 3 oz. of water). After the tapeworm is gone, it is a good procedure to continue the use of pelletierine tannate in small doses, say 5 to 8 grn., to prevent the recurrence of the trouble. You might also try a combination of pelletierine tannate and oleoresin male fern. Several observers report excellent results from this combination. Another good combination, but one which is rather difficult to take, is as follows:

- Oleoresin Male Fern ..... 4 dr.  
Oil Turpentine ..... 2 dr.  
Pelletierine Tannate ..... 1 dr.  
Chloroform ..... 1 dr.

Shake well. One teaspoonful in the morning, on an empty stomach, followed in about two hours by a saline cathartic.

Several physicians who have tried this combination pronounce it infallible, but as stated above, not every patient's stomach can bear it.

S. P. C.—Dr. Jacobi has not published any regular text-book on diseases of children. There is a small volume containing a collection of some of his lectures on the subject.

J. C. B.—The formula of Mueller's Fluid, used for preserving anatomical specimens, is as follows: Potassium bichromate, 2 or 2½ parts; sodium sulphate, 1 part; water, 100 parts.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Sunstroke, or Insolation

Where the temperature reaches, as it often does, 106° to 110°, the first indication is to reduce it by all means, as such hyperpyrexia is incompatible with life. Antipyretics by the mouth are not suitable, as their action is too slow and problematic. The treatment, therefore, consists in putting a large ice-cap over the patient's head and immersing him in ice water. Cold effusions, cold enemata (a gallon or more of ice water), and wrapping in sheets dipped into ice water are also resorted to. Hypodermically administer a solution of quinine hydrochlorate or of antipyrine. Where convulsions occur or restlessness is very great, morphine ( $\frac{1}{2}$  to  $\frac{1}{4}$  grn.) should be given subcutaneously. If the heart is beginning to flag, give strychnine hypodermically.

The treatment of heat-exhaustion is entirely different. Here stimulants and external heat are needed from the start, as we have here a true condition of exhaustion and depression to deal with. Brandy, ether, strychnine, and tincture of opium are the remedies to be employed.

### Poisoning by *Rhus Toxicodendron* (POISON IVY, POISON OAK):

Spt. Nitrous Ether..... 4 oz.

Apply frequently on lint and give also internally 10 min. every hour.

Spt. Nitrous Ether..... 4 oz.

Solut. Lead Subacetate..... 30 drops

Apply externally to the affected parts.

Sodium Bicarbonate..... 6 oz.

Sodium Borate..... 1 oz.

Water..... 2 pints.

Shake well (the whole amount of the bicarbonate will not dissolve) and apply freely on cloths. Change frequently.

Fl. Ext. *Grindella Robusta*.... 1 oz.

Peppermint Water..... 2 oz.

Rose Water..... 6 oz.

Apply freely on cloths and give internally 2 to 5 drops of the fluid extract every hour. Much larger doses may be given.

Lead Acetate..... 1 dr.

Tinct. Opium..... 1 oz.

Water..... to make 1 pint.

Apply externally. (For mild cases only.)

Ammonium Chloride... 1 oz.

Spt. Nitrous Ether..... 1 oz.

Water..... 15 oz.

Apply externally every hour or two.

Sodium Hyposulphite..... 6 oz.

Water..... 12 oz.

Apply freely on cloths.

Ichthyol.....  $\frac{1}{2}$  oz.

Water..... 8 oz.

Apply externally every three hours.

Ichthyol..... 1 dr.  
Menthol..... 10 grn.  
Petrolatum..... 1 oz.  
Cold Cream..... 2 oz.

Apply every three hours. The proportion of the menthol must be gauged by the sensations of the patient. To some it is very agreeable and cooling, and they ask for an increase of the menthol. In other cases of poison ivy the menthol is very irritating.

Salicylic Acid..... 1 dr.  
Lycopodium..... 2 dr.  
Bismuth Subnitrate..... 3 dr.  
Starch..... 6 dr.

Apply freely, after the acute stage has somewhat subsided.

Starch..... 3 dr.  
Zinc Oxide..... 1 dr.  
Magnesium Oxide..... 4 dr.

Apply frequently with powder puff.

### Freckles:

Emulsion (Milk) Almond, U.S.P. 6 oz.  
Boric Acid..... 1 dr.

Apply frequently.

Emulsion Almond..... 4 oz.  
Corrosive Mercuric Chloride... 4 grn.

Apply carefully every three or four hours.

Corrosive Mercuric Chloride... 4 grn.  
Bismuth Subnitrate..... 1 dr.  
Zinc Oxide..... 1 dr.  
Mucilage Quince Seed..... 1 oz.  
Rose Water..... 3 oz.

Apply frequently. An excellent preparation.

### Sunburn:

Solut. Lead Subacetate..... 8 min.  
Slippery Elm Bark..... 1 dr.  
Rose Water..... 4 oz.

Macerate a few minutes and strain. Apply frequently.

Hydrogen Peroxide..... 1 oz.  
Rose Water..... 3 oz.

Apply on lint on going to bed.

Hydrogen Peroxide..... 1 oz.  
Glycerin..... 1 oz.  
Rose Water..... 2 oz.  
Mercuric Chloride.....  $\frac{1}{2}$  grn.

Swab on three to four times a day.

### To Drive Mosquitoes Away:

Oil Sassafras..... } equal parts.  
Oil Wintergreen..... }

Apply to exposed portions of body. The oils of cajuput and origanum are also very effective, but they have a rather unpleasant odor.

### Bites of Insects, Mosquitoes, Bees, etc.:

Ammonia Water..... 2 dr.  
Eau de Cologne..... 6 dr.

Apply with cotton swab.

Ichthyol..... 2 dr.  
Petrolatum..... 6 dr.

Apply freely. Considered by Oettinger the best application for bites of any insect.

Ichthyol..... 1 dr.  
Alcohol.....  $3\frac{1}{2}$  dr.  
Ether.....  $3\frac{1}{2}$  dr.

Apply with camel's hair brush. The alcohol and ether must be mixed first before the ichthyol is added.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**The New School of Medicine.**—The changes which I have advocated are essential for the attainment of the purposes of the association and for the fulfilment of the high destiny of our national profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor pre-conception, and abandons the accepted truth of yesterday, if it only be the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretention to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the Democracy of Science; to you, citizens of the Republic of Letters. I extend greetings; and here, in our parliament assembled, here, where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth.—From President Chas. A. L. Reed's Address, meeting of the American Medical Association.

**A Survival of Another Age.**—Those who have looked a little carefully at the politics, the jealousies and the hatreds, half-smothered or in volcanic eruption, of some of our medical schools, may have been startled by a recent phenomenon wholly at variance with these ferocities. Two men of great scientific ability in the same specialty and in the same department of a college, expect

that the coveted professorship must in time come to one or the other. And yet there is not the least suspicion of one seeking advantage at the expense of the other; neither forms alliances, or enters cliques, and the friendship between the two is so pure and sincere that one dedicates to the other, his equal, his exceptionally fine surgical text-book. The fact is enheartening; may it encourage others to renounce the savage animosities and self-seeking that justify the pointed finger of scorn, and that cripple all our educational and professional progress.

### Temperance Physiology in Public Schools.<sup>1</sup>

—We are glad to note the signs of revulsion against the extreme temperance reformers, who have by the trick of their laws forced so much namby-pamby stuff into the schools under the head of physiology.

Bugaboo morals are the most childish, and the soonest outgrown; and the small men and women who devour with large-eyed horror these exaggerated sentiments about fatty livers and ulcerated stomachs, delirium tremens and cancer of the throat following the use of alcohol or tobacco, quickly learn to discover even the truth in these statements.

We know only too well the means by which very excellent physiologies have been padded to make up the requisite percentage of words upon alcohol and tobacco, under a narrow-minded censorship that struck out every statement concerning the use of alcohol as a useful adjunct in disease; and we have marveled to see the results of scientific investigations deliberately perverted into false generalities.

We deplore the absolute ignorance of American teachers as well as children, concerning the fundamental laws of health, and we wish most heartily that temperance in the matter of eating, of tea and coffee-drinking, and common sense concerning fresh air, exercise and sleep, as well as the economic value of foodstuffs, might be particularly taught in schools; but so unfair has been this temperance movement, and so great have been the exaggerations perpetrated on an unwary public, that we fear the influence that the schools should have on all matters of public health, including the dangerous effects of intoxicating drinks and tobacco, will be greatly diminished.

Already Western educators are opposing the teaching in its present form, and the Massachusetts Legislature is tightening the reins. Other States are realizing that they are not only being made ridiculous by their laws, but are seriously handicapped by sentimentality; therefore we hope that the day will soon come when the children will not be forced to swallow pure alcohol for practical physiology.

**Consumption Cures.**<sup>2</sup>—Since public attention has been focused upon tuberculosis, the number of consumption cures has multiplied almost daily, and in the editorial advertisement of one of them, in a New York paper, their number up-to-date is given as 153. They range from burying in carrion, which is perhaps the most repulsive, through every possible form of remedial treatment up to the metaphysics of "Christian Science," and human credulity would seem to be pretty nearly exhausted, if it were not actually inexhaustible, on this subject. It is a curious inconsistency of the human mind that it can take in at once the terror of an incurable disease, and this belief in the multiplicity of its cures.

<sup>1</sup>Amer. Med., 1, No. 12.

<sup>2</sup>Med. News.

<sup>3</sup>Jour. Amer. Med. Assoc.

## Correspondence

### Pepsin Externally in Acne

#### MERCK'S ARCHIVES:

Six years ago I treated a man thirty-four years of age for alcoholism. He was afflicted with a typical case of "red nose" (acne rosacea). He had had the disease for seventeen years—since he was a boy. Drink had undoubtedly aggravated the disorder, but it did not cause it, as he contracted acne rosacea before he had ever tasted liquor. The disease was a source of constant humiliation and worry, because of the disfiguration, and, no doubt, to some extent was a causative factor in his spells of inebriety. He was willing to submit to any treatment that promised even a probability of cure. He had been treated by many physicians, but without benefit. Considering the disease to be of a fungous nature, and having observed that pepsin would digest and destroy unhealthy, fungous tissue formations, indolent in character—notably in old ulcers—I determined to apply a strong solution of pepsin direct to the diseased derma, by means of intradermic injections. I prepared with distilled water a saturated solution of scale pepsin, and with a needle of rather large calibre, fitted to a strong syringe, injected the solution into the diseased area, which involved the entire skin of the nose and a circular patch that extended from the nose well out on each cheek—suggestive in shape of a butterfly. This operation was followed by considerable swelling, which subsided almost entirely by the next morning. The swelling was not accompanied by any pain. The injections, however, were somewhat painful, but not much so, as the diseased skin was not very sensitive. I repeated the treatment, in all, five times in about three weeks. In a month from the first treatment the pimples had vanished completely, but there was still a reddish blush that pervaded the original area of the affliction, and which, in contact with the cold air, made its outlines still apparent. I should have remarked that the treatment was followed by active exfoliation of the old skin, a process which persisted for several weeks. The reddish color which marked for a time the site of the acne rosacea, grew fainter as time and the exfoliative process proceeded, and finally after about two months and a half, when the new skin had by exposure become seasoned to atmospheric conditions and changes in temperature, there was not a sign remaining of the unsightly blotch that had made the man's face almost hideous. It is now six years since I treated the case, and there has been no return of the acne—nor in or during that time has he ever tasted intoxicating liquors. In the last issue of MERCK'S ARCHIVES, to which I am a subscriber and of which I am a diligent reader, I noticed a request for physicians to send in brief accounts of their unusual cases, and I thought that a short description of this case and the treatment employed—which I believe is original—might be of some interest to the readers of your valuable monthly.

DANIEL H. S. TUTHILL, M.D.,

810 South Ashland Ave., Chicago, Ill.

### Dionin as a Sedative

#### MERCK'S ARCHIVES:

I was called in to treat a patient with an abscess of the hip, a tuberculous sore which was very painful. He had been given a great deal of morphine, hypodermically,  $\frac{1}{2}$  grn. morning and night, and craved for it. He was so weak that he could

hardly sit up in bed. I tried giving him  $\frac{1}{4}$  grn. of dionin, twice a day for two days, and was surprised to observe the pleasant effect it had on the patient. He said he had "never had anything so nice," he "felt so rested." In three days I dropped to but one dose of  $\frac{1}{4}$  grn. of dionin a day, and after that was not required to give any sedative.

In another case, that of an old man of seventy-six, with a dry, hacking cough, which kept him awake nights, I gave two dionin tablets ( $\frac{1}{4}$  grn. each) dissolved in a little water, one hour apart. He slept most of the night, and his throat was free from the dryness formerly induced by morphine and atropine.

I shall try dionin in the case of my brother-in-law, who has been taking 8 or 9 grn. of morphine daily to relieve the pain caused by sciatica.

WM. W. LOOMIS, M.D.,

Merrick, Mass.

### Formula for Asthma

#### MERCK'S ARCHIVES:

In the May issue of the ARCHIVES, department of Queries and Answers, you give in reply to a correspondent an outline of the treatment of asthma. Among other formulæ you advise the following: Morphine sulphate, 1 grn.; spirit glonoin, 16 min.; comp. spirit ether,  $\frac{1}{2}$  oz. Dose: 20 drops to one teaspoonful. I had opportunity to use this the very next day after receiving the ARCHIVES, in a woman of sixty-four, who had been suffering with asthma for over thirty years. Usually an attack would last from three to four days, and medicine would have but very little effect. Two teaspoonfuls of the above mixture, given an hour apart, broke up the attack completely. She slept about five hours and woke up perfectly well.

S. M. BROWN, M.D.,

New York.

### Thiosinamine

#### MERCK'S ARCHIVES:

A young man (on the society order) has a "birth-mark," about which he is as sensitive as was Lord Byron about his foot, and came to me to ascertain if I could remove it. An answer in the *Medical World* to an inquiry by some physician as to scars, warts, moles, etc., led me to think that perhaps Thiosinamine Merck might answer in this case. The mark is a semi-circle looking almost like the cast of a mule's foot. The circle extends from the edge of the hair down to the left eyebrow, the right outer aspect being about the center of the forehead, the toe at upper margin of eyebrow, the left on a line with the outer corner of the left eye. The circle looks like a milky-white cicatrix, while the center is of a dark-brown color, characterized by the rough, warty aspect usual in such cases and raised about three lines above the level of the circle. I made a 30-per cent. solution and injected, carrying the needle as far across as I could, and yet holding it in the cutis vera, avoiding injection into the subcutaneous tissue, withdrawing it very slowly with constant, firm pressure on the piston. Stronger injections were made each time, until the dose of the drug reached 4 grains. The discoloration is rapidly disappearing, the skin on the upper and lower margin is already normal, or very nearly like the natural skin, and the center mass is now well broken up in its structure, and I think will in a few days be absorbed. Little impression is yet perceptible on the circular cicatrix ring. Will report to you again if I make a complete success of it, for it will be a valuable addition to our therapeutic knowledge.

L. J. BRISTOW, M.D.,

Florahome, Fla.

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

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### What Constitutes a Medicine ?

THE question is raised by an esteemed contributor in this number of the ARCHIVES as to what is the essential distinction between a food and a medicine. Practically the same issue is at stake in the discussions now going on between certain physiologists on one side and the adherents of total abstinence upon the other. One side declares alcohol essentially and inherently a poison, and the other shows experimentally that it has qualities that constitute it a food. In the debates that occur on all such questions confusion is likely to arise from lack of clear definition, even when unscientific bias is excluded. Unless both sides are willing to agree in advance concerning what they mean by the names "food" and "medicine," or "food" and "poison," and unless they agree to adhere strictly to accepted definitions, the discussion is sure to degenerate into a mere useless logomachy. When our contributor lays down as axiomatic that "food is food and medicine is medicine," and fails to tell us what he means by the words food and medicine, he only makes a statement that is axiomatic to himself and to no one else. Does he mean that certain substances, such as sugar, fat, starch, or albumin, are always and under every bodily condition sustainers of energy, builders of tissue, and replacers of tissue waste? Does he wish our readers to infer that alcohol, morphine, strychnine, caffeine, and cocaine are always and under

every bodily condition merely capable of transforming pathological states into physiological ones, or of relieving unpleasant symptoms? Does he wish us to believe that the substances which under one set of conditions constitute foods, cannot under altered conditions become medicines, or that those which at one time are used as medicines cannot at another time be used as foods? That such seems to be his intent appears from the statement that "to admit that they never become identical" is to concede all he asks.

Under the multitudinous as well as the unknown conditions that surround metabolism, from the exhibition to the destruction and excretion of foods and medicines, the attempt to maintain a position so far-reaching and to pronounce it an axiom is exceedingly bold, and we think we are justified in challenging the writer for his proof. We deny that his proposition is axiomatic. Every substance that restores the system from a pathological to a physiological condition is a medicine. Every substance that is capable of sustaining bodily energy, building up tissue or replacing tissue-waste, is a food. If this is correct, then there can be no doubt of the fact that there are many substances that can and frequently do perform both the functions of medicine and food, and that may be either, according to the conditions of the taker. It is the use the substance is put to and not

the substance itself, that constitutes it a food in one instance and a medicine in the other. When we use olive oil on our salad or take it with our sardines, surely no one will deny the fact that it is a food. When we administer olive oil as a cathartic or use it for the relief of biliary calculi, it is just as certainly a medicine. When we advise our patients who are subject to constipation to use prunes freely, the identical substance which is usually used as a food becomes a medicine. Salt is certainly a necessary article of food. From it is derived the hydrochloric acid of digestion, and the sodium salts of the bile. When, however, we use a decinormal salt solution for injection in states of extreme collapse, that identical substance becomes a medicine instead of a food. In this country pine-apples are quite extensively used as an article of food. This, however, does not hinder their being administered instead of pepsin to patients with a scant supply of gastric juice. Where diabetic patients or others have from any cause been subject to a continuous dearth of carbohydrates in their food, it has been found that the fat of the body is consumed as a substitute. During such consumption there arises a condition of acetonuria that may go on to convulsions and death. This condition is promptly arrested by administering starch or saccharine substances. To cure acetonuria it is necessary to resort to remedies that are ordinarily looked upon as foods. When infants are raised upon artificial foods or milk sterilized by boiling, or when adults are compelled to subsist for a long time on salted, preserved or dried foods without fresh vegetables, it is a well-known fact that they are pretty sure to be attacked by the disease condition known as scurvy. In practice it is found that fresh vegetables, lime juice, orange juice, or fresh beef juice restores such patients to normal health. Where, then, is the difference between food and medicine?

Our contributor tells us that a food when taken into the system adds itself to the tissues, while a medicine does not. This is certainly a novel method of distinguishing a food from a medicine. As no known ar-

ticle of food attaches itself to the tissues in the form in which it is taken as food, and as no living person knows all the changes that either food or medicine undergoes in the body, it seems to us a useless waste of effort to dogmatize upon the subject one way or another. As most organic medicines are chemically in close relation to what we call foods, and as they all or nearly all appear to be katabolic products of such foods, it is certainly a most improbable guess that would deny them the power of being assimilated by our tissues. So far as inorganic substances are concerned there might be room for doubt, but even here we are very much in the dark. That many of the substances which are used only as medicines are not excreted in the form in which they are taken, is evidence that some form of assimilation is probable. Some of them, indeed, appear to be wholly consumed, as no trace of them can be found after passing the stomach. Where, then, is the ground for the assertion that they do not in any way add themselves to the tissues? The fact is, that the matter is, in the present state of our knowledge, so obscure that speculation thereon is perfectly idle effort, instead of being, as our contributor seems to think, so thoroughly settled that he can assert "We do certainly know that it cannot be so denied."

So far as iron as a medicine is concerned, our knowledge as to *how* it acts is not complete. That it relieves conditions of anemia thousands declare. How it does so is quite another question. Since manganese, copper, gold, mercury, and other metals in the form of salts are declared to be efficacious in the same direction, it is possible that they merely arrest the waste of organic iron normally present in the food by absorbing the excess of sulphydric acid produced in the intestines. For a *complete scientific* answer to such questions we must await the slow development, by actual research work, of inductive therapeutics. It will probably be a long time before we are sufficiently acquainted with the chemistry of digestion and assimilation to know just what happens to any remedy during its passage through the body.

[Written for MERCK'S ARCHIVES]

**SOME REMARKS ON THE TREATMENT OF  
HEMORRHAGE, WITH ESPECIAL CON-  
SIDERATION OF GELATIN**

By Horatio C. Wood, Jr., M.D.

Demonstrator of Pharmacodynamics, Univ. Pennsylvania.

If bleeding from a part which can be directly reached, as the nose or stomach, is almost impossible to control—as it often may be, especially in persons with some dyscrasia of the blood—it is very easy to understand why the treatment of internal hemorrhage is fraught with so great difficulty. On account of the poverty of our armament against internal hemorrhages the profession has frequently been led to use any weapon that has offered itself, no matter how insufficient or at times foolish have been the reasons advanced to uphold its claims; and only too often, as might have been expected, has the much vaunted remedy proved absolutely without value. Indeed, it seems that only the fact that internal hemorrhages usually cure themselves has been able to save the patient from injudicious medication. Within the last few years, however, there has been an awakening of the profession, and very pointed questions asked as to how the older anti-hemorrhagics can possibly be of any value; and evidence has even been brought forward to show that many of them are absolutely harmful.

Those substances that have proven themselves useful as local styptics act in one of two ways, either by coagulating the blood with the production of hard clots, or else by a powerful vaso-contraction narrowing the lumen of the vessel *at the point of hemorrhage*. Some writers assert that all hemostatics act by coagulating the albumin; this view, however, is certainly incorrect. For example, one of the most powerful styptics we have to-day is the suprarenal extract, which has practically no effect upon the blood; its value being due solely to its stimulant influence on the walls of the vessels.

It is evident that such hemostatics as silver nitrate, alum, and tannic acid, which act largely by virtue of the precipitation of albumin, are absolutely useless in remote hemorrhages, as from the lungs or kidneys. The futility of the vaso-constricting styptics is not at first thought so apparent, and yet the consideration of the physiological action of such drugs as ergot or suprarenal extract must show they are capable only of harm. This has been so clearly brought out in a recent number of this journal by Wm. J. Robinson<sup>1</sup> that I will only reiterate what Robinson has already called attention to,

that the use of circulatory stimulants is directly opposed to Nature's mode of checking hemorrhage.

To tear down is always easier than to build up, and he who objects to the old remedies without suggesting a new one has not, after all, contributed much to increase the efficiency of our therapeutics. Most of the recent papers which have pointed out the errors of ergot and its fellows have left us no drug with which to combat internal bleeding, save such as morphine, which can do good only very indirectly. In the last few years, however, a substance so commonly used as to have been classed among the foods rather than medicines—namely, gelatin—has been found to possess most remarkable properties as a hemostatic. The honor of the discovery of the styptic action of gelatin belongs to the well-known French physiologist, Dastre. In 1896, Dastre and Floresco,<sup>2</sup> in the course of an investigation concerning the physical properties of solutions of gelatin, were led to inject it into the vein of a dog, and were immediately struck by the remarkable alteration in the coagulability of the blood. In order to understand more clearly this effect of gelatin, we may spend a few minutes considering, first, the physical properties of gelatin and also the properties of the gelatin blood-clot.

As is well-known, gelatin is practically insoluble in cold water but freely soluble in hot water. Its solution on cooling solidifies, provided it has a concentration of higher than 2 per cent. According to Dastre and Floresco, if the solution of gelatin is maintained at a temperature above 110° C. (230° F.) it loses the property of jellying. It may, however, be maintained for some time at a boiling-point without seriously interfering with its solidification. Strong solutions of the iodides or chlorides (above 10 per cent.) have the same effect as high temperature, while weak saline solutions cause comparatively little change in the jellyfication. The alteration produced by the salines is analogous to that which takes place in the digestion of gelatin, causing a conversion of it into a substance known as gelatose. Dastre and Floresco<sup>3</sup> injected into the vein of a dog a 5-per-cent. solution of gelatin in physiological salt solution; they found after the injection that the urine solidified on cooling, showing that the substance was largely eliminated through the kidneys unchanged; the blood that was drawn from the gelatinized dog clotted almost instantly. They found further that if the gelatin was added to normal blood outside of the body, coagula-



tion was again greatly quickened. This coagulation they showed to be a true clot, and not a jelly, because, first—it occurred too quickly, requiring only ten seconds against at least as many minutes for the jellying of an aqueous solution; secondly—the blood from the gelatinized dog clotted equally as rapidly at a temperature of 38° C., while a 5-per-cent. solution of gelatin will not solidify at all at that temperature; thirdly—if the blood was allowed to clot, and kept warm, the serum which collected on the top of the clot was liquid but solidified on cooling, and when re-warmed would reliquify without the clot itself undergoing any change; fourthly—a watery solution of gelatin will not solidify if under 2 per cent., while if gelatin is injected into the blood in sufficient quantity to make only a 0.4-per-cent. solution the blood clotted rapidly. More than this, the serum of such blood expelled by the clot jellied on cooling, showing that the gelatin was not contained in those portions of the blood which had entered into the formation of the clot, but was all dissolved in the serum. Unfortunately these authors do not seem to have experimented with gelatose or digested gelatin, and give no definite information as to whether the remedy loses its value when given by the stomach.

In investigating the cause of the increased coagulability of the blood brought about by gelatin, Dastre and Floresco studied its antagonism with various agents which prevent clotting. These latter may be divided into three groups: those which act by decalcification, such as the oxalates; concentrated saline solutions, such as magnesium sulphate; and the peptones and similar ferments, including leech extract. Each one of these groups is antagonized by a different coagulant. For example, if a decalcifying substance like potassium oxalate has been used, the addition of calcium chloride restores coagulability to the blood. Simple dilution is sufficient to overcome the effects of concentrated salines. Neither calcium chloride nor dilution affects the clotting of the blood to which peptone has been added. On the other hand, gelatin was effectual only in cases of peptone anticoagulants. It was found that gelatin in sufficient quantity was able to overcome the anticoagulant influence of propeptone, and conversely, that propeptone was able to overcome the clotting action of gelatin; and it was possible to inject the two substances simultaneously in such proportions that there was neither hastening nor retardation of clotting.

Apparently Carnot<sup>4</sup> was the first physi-

cian to make practical use of the discovery of Dastre and Floresco. He employed gelatin as a local styptic in cases of epistaxis, metrorrhagia, and similar conditions. He used the gelatin in 5- to 10-per-cent. solution in normal saline solution, made by warming over a water-bath to 35° C. In all cases the results were most pleasing. For example, in a case of nose-bleed occurring in a boy tainted with hemophilia, which had resisted ferric chloride and antipyrine, the injection into the nose of a few Cc. of a sterilized gelatin solution absolutely controlled the hemorrhage.

Other clinical reports concerning the local hemostatic action of gelatin are sufficiently abundant as to be apparently quite conclusive; I shall quote only a few of them, with the references, which will give a key to the literature to any one desiring to study the question more closely.

Freudenthal<sup>5</sup> reports a severe case of nose-bleed, which was controlled by local application of gelatin. Manicatide and Christodulo<sup>6</sup> have made extensive trials of it in various forms of menorrhagia and metrorrhagia. They applied it by means of tampons saturated with gelatin solution directly to the cervix uteri, in fifty-five cases, with very pleasing results. Lemoine<sup>7</sup> has found it useful to check the bleeding following leech-bites. Poliakow<sup>8</sup> has obtained good results in a case of hematemesis from gastric ulcer, also in hemorrhoids, used locally. Krause<sup>9</sup> injected it into the joints in a case of hemorrhagic arthritis occurring in a hemophilic boy.

It is evident that the drug acts very powerfully as a local styptic, but the question of whether or not it would prove so valuable in internal hemorrhage is complicated by other factors. For example, Camus and Gley<sup>10</sup> assert that the subcutaneous injection of gelatin cannot have any effect upon the blood, because, being a non-dialyzable substance, gelatin is incapable of absorption. In support of their deduction they quote some experiments in which the intra-peritoneal injection of gelatin failed to increase the coagulability of the blood. Two hours after the injection they claim to have found a large proportion of the gelatin solution still in the peritoneal cavity. Lancereaux and Paulesco<sup>11</sup> object to these conclusions on the following grounds: first, the injection of a solution under the skin is practically the same as injecting it directly into the lymph channel, and therefore the substance will be taken up whether it is dialyzable or not; secondly, ascitic fluid, which is equally non-dialyzable, is frequently absorbed; thirdly, gelatin injected hypo-

dermically disappears in a very few minutes. They also take direct issue with Camus and Gley, in a question of fact, asserting that the intraperitoneal injection of gelatin does increase the coagulability of the blood. They also affirm that the injected solution disappears from the abdominal cavity, advancing the suggestion that the fluid found by Camus and Gley was not the injected gelatin, but merely serum. They found that after the injection of 100 Cc. of a 1-per-cent. gelatin solution into the peritoneal cavity of the rabbit the blood which had previously required four minutes to clot was firmly clotted in less than one minute. The proper dose for a man they put at 250 Cc. of the 1-per-cent. solution.

The clinical results of the use of gelatin in internal hemorrhage certainly bear out the statements of Lancereaux and Paulesco. The use of gelatin in aortic aneurism, while not belonging to the subject-matter of this paper, has great bearing upon the question of its effect upon the coagulability of the blood; and in view of the immense number of cases of its beneficial action in aortic aneurism there seems little room for doubt that it acts in internal hemorrhage after hypodermic injection.

Schwabe<sup>12</sup> and Hahn<sup>18</sup> have had immediate success in cases of *hematuria*, after milk diet, ferric chloride and the other usual remedies in this connection had failed entirely. Davezac<sup>14</sup> obtained excellent results in two cases of *hemoptysis*. Costinesco<sup>15</sup> and Arcangeli<sup>16</sup> have each employed it in several cases of *purpura hemorrhagica*, with always pleasing results. Kehr<sup>17</sup> has found it very serviceable in secondary *hemorrhage following operations* upon the gall bladder.

Whether or not gelatin loses its property of increasing the coagulability of the blood after digestion I do not think has ever been definitely determined, and the literature upon the subject is hardly voluminous enough to allow of a definite decision. I have myself, however, seen very happy results in a case of *hemoptysis*, apparently justly attributable to the administration of gelatin by the mouth; and Hahn reports a case of *hematuria* dependent upon a blood dyscrasia, which had resisted various methods of treatment for several weeks, apparently cured in two days by giving gelatin with the food. Rocchi<sup>18</sup> advises the administration of gelatin per rectum.

The technique of the gelatin injection is exceedingly simple. Solutions of from 1 to 10 per cent. have been recommended by various authors, perhaps the most commonly used being 2 or 5 per cent. The solution may be sterilized by maintain-

ing it at a boiling point for a few minutes at repeated intervals. The total amount of gelatin injected at a dose varies from 1 to 5 Gm. (15 to 75 grn.), so that if, for example, a 2-per-cent. solution be employed, the total amount injected might approximate 100 Cc. (about 3½ oz.). The gelatin may be dissolved in normal salt solution, and may be injected in the same manner as in giving hypodermoclysis into the loose subcutaneous tissue of the chest. Locally it has been employed in the form of a 10-per-cent. solution. In his case of *hematemesis*, Poliakov gave 200 Cc. of a 10-per-cent. solution daily by the mouth.

Some objection has been raised to gelatin not being entirely without danger. The most serious effects attributed to its use have been the causation of thrombi. I do not think the cases quoted by Huchard<sup>19</sup> are at all conclusive evidence of this action.\* Certainly its use in ordinary diseases is not attended with much danger in this direction. Freudweiler<sup>20</sup> and others have asserted that it is distinctly irritant to the kidneys, and is capable therefore of great harm in renal hemorrhages. The results however of Schwabe and Hahn show that at least many of these cases, if not all, are markedly benefited by gelatin. Considering the subject as a whole it certainly seems that there is good promise of gelatin proving the most useful drug we have in the treatment of internal as well as local hemorrhages.

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The use of gelatin as a hemostatic seems to be firmly established. Reports of its use either hypodermically or per os are exceedingly frequent of late in the German and French periodical literature.

\* This question has been thoroughly discussed, and Huchard's argument answered by Lancereaux. See *Bull. Acad. de Méd.*, Paris 1898, p. 353.

[Written for MERCK'S ARCHIVES]  
**TISSUE-FEEDING MEDICATION**

By Wm. Colby Cooper, M.D., Cleves, O.

How many doctors have given the question of tissue-feeding hard and conscientious study? There is a group of unpromising and inexorable reasons which justify the assertion that not one in 10,000 has done this, and these reasons will be brought out in what follows.

This tissue-feeding notion has existed always. Hippocrates inherited it from his predecessors, as we have inherited it from him and his successors. It is not essentially different from any other sciolistic output, for it is the product of surface reasoning—spurious logic. The discussion of no other subject—barely excepting religion—so remarkably illustrates the insistent tenacity with which we cling to inherited dogmas and traditions. I have on several occasions convinced a brother physician that the theory of tissue-feeding is false, and that to employ it is to be guilty of malpractice, only to see him go off and contradict himself by still adhering to it in his practice. It proves this: that intellectual conviction does not always carry with it the eradication of habitualism; either that, or that preterism is stronger than reason and conscience; or it may prove both. Anyhow, it is a Herculean feat to dislodge completely an inherited prejudice or belief. We all hate iconoclasm; therefore, I do not expect this paper to make me a host of enthusiastic friends. All I hope to do is to start the reader to thinking earnestly and seriously along a particular line of medication. My phraseology will necessarily be more or less dogmatic, but *only* in order to escape circumlocution.

I propound this as an axiom: *Food is food and medicine is medicine*. Philologically, this is indisputably an axiom; but is this true of its ideational essence? Does not food run—ultimately by fine gradations—into drugs, and do not drugs, in the same manner, merge into food?

Even those who hold that food and drugs merge, will insist that there is a difference between them. Practically, this is to admit that they never become identical, and this is to concede all I ask. Identity and difference are not affirmatively compatible. If they are ever identical, the words "food" and "drugs" do not have constant meanings. They are different; therefore, my axiom must stand.

Upon what does the difference between food and medicine depend? It depends upon the fact that one, when taken into the system, adds itself to the tissues, and that

the other does no such thing. This defines the line of demarkation between food and medicine. Can this be successfully disputed? We do certainly know that it cannot be so denied.

Upon what would the possibility of feeding a particular tissue have to depend? It would have to depend upon the fact that the chemist is, in synthetic ability, equal to Nature, and that the lacking element in the starved tissue results from a lack of this element in the patient's food. Now doctor, ponder this enunciation. See if you can discover a flaw in it. If you cannot, what are you going to do? Suppose you have an anemic patient, are you going to give this patient iron? You know that the patient's food contains an abundance of natural, assimilable iron. You know that if the blood factory cannot take up Nature's iron, much more will it reject artificial iron. You know this latter to be true because it is the supreme ambition of the chemist to duplicate Nature's iron, and you know this is true, for the reason that the chemist knows that all the iron we give a patient is recoverable from the patient's feces and urine. Greatest of all, you know that if the chemist should succeed in imitating Nature's iron, there would exist no tissue-feeding excuse for its employment. What on earth could you do with it, knowing that the patient's food would contain more of the same iron than he could appropriate, even if there were nothing the matter with him?

If it were a fact that the system would accept chemical iron when it was rejecting natural iron, what kind of an outlook would the patient have? Would he have to take chemical iron all the rest of his life? If not, why not?

If all the foregoing argument were fallacious, there would be left plenty of doubtless logic wherewith to batter down the tissue-feeding fabric. All intelligent doctors will agree that anemia is not a disease, but is the result of disease. It is about certain that there is no such thing as idiopathic anemia, but if there is such a malady, its quality, like that of every other disease, contradicts the ankle-deep philosophy of tissue feeding. In general, we may say that all anemias are effects—effects of diseases. Can we treat the effect of a disease with any rational hope of thus removing its cause? Is any but causal treatment in harmony with true therapeutic philosophy? If not, is not the attempt to supply directly a disease-produced lack, malpractice? Do we not all agree that the immediate cause of anemia is a form of malassimilation? Is

not this the lesion to treat, unless it is very evidently the output of another disease? Is there any sane reason for concluding that iron is the logical remedy for a condition which depends upon the system's *inability* to appropriate iron, or that it is the natural remedy for the *various* causes of this inability? Could iron be a remedy for anemia without compassing a self-stultification of natural process?

Anemia, the result of hemorrhage traumatically caused, is not only not a disease, but has no connection with disease. In this case, stop the leak, and directly supply the lack. A successful transfusion would be the remedy. The whole business is mechanical, and has no connection with pure therapeutics.

If anemia is a disease—*i.e.*, if a lack of red corpuscles, or of the iron element of these discs constitutes the primal lesion, and if iron is philosophically curative in the case—why should we waste time and injure the teeth and stomach in giving the iron per os, *especially* as we know the elective cells have “struck” against iron? Why not examine a drop of the blood to learn what, and how much of it, is lacking, and then inject it into the circulation? Wouldn't the practice of medicine be delightfully simple and easy if *direct* tissue-feeding were philosophically and resultantly justified?

If there were no other argument against the use of iron in anemia, the fact that it has never been known to do any good ought to be sufficient. It is true that an occasional patient will recover while taking some preparation of iron, just as millions have recovered under the grossest malpractice. Iron almost heads the extended category of putative remedies that are always given in certain conditions, because they always have been so given—never because they do any perceivable good. The confusion of imagined drug results with those of natural reparation—what is the measure of the harm it has wrought! Yes, I know it, doctor—we must establish the sphere of a drug by experimentation. That is true, but why should we experiment with a drug under the *food* impulsion, when we know, or should know, instinctively that a food is not a drug, and a drug is not a food? There is no sane excuse for this; we are badly enough handicapped in the testing of drugs, after we have cleared away every possible indicatory objection.

I have said that iron, used internally, has never done any good. I will say here that I believe it to possess but one medicinal quality—namely, astringency. Iron has

done good, and will do good as a local styptic—that is all. I have experimented with it studiously and conscientiously for thirty years, only to be driven to this conclusion. In this connection, I want to say there are on the market preparations of iron that are effective remedies, but they are so by virtue of the elements associated *with* the iron they contain. They are good in spite of their iron constituent. This is true, too, with reference to various preparations of phosphorus, lime, and other alleged tissue-feeders. Of all ferruginous preparations, the old muriated tincture of iron is certainly the best. The reason is plain—hydrochloric acid is quite a positive remedy in certain forms of malassimilation. Give the preparation minus the iron, and you will always get better results. I have tried it a thousand times. Of course what I have said with reference to iron in anemia, is equally true of phosphorus in neurasthenia, brain-fag, etc., and lime in rickets, delayed dentition, etc. If there were a particle of sense in the tissue-feeding notion, advising neurasthenics to eat plenty of fish—which is a fashion—would be wise. Has any one noticed that fishermen are remarkably strong-nerved, and phenomenally brilliant intellectually? Is it not a physiological fact that you can not force into the system more than a definitely limited amount of any tissue-feeding element? It is equally a pathological fact that, in conditions in which a particular substance is refused, you cannot overcome this rejection by offering increased amounts of the substance. In fact, there seems to be almost no end of reasons why the tissue-feeding conception is little better than the figment of diseased brains. This is not to say that the thousands of intelligent physicians who employ so-called tissue foods for tissue-feeding purposes, are mentally unsound; it is to say they have not studied the subject. Not one in 10,000 has done this, as asserted in the beginning of this article. This is evidenced by the fact that physicians, to a man almost, try to directly feed particular tissues. I can't believe, and I won't believe, that about all doctors have studied the question without being convinced of the fallacy of tissue-feeding; or, having been convinced, are too great slaves to conservatism and classicism to amend their therapeutic methods.

From the beginning of medicine, all drug-giving doctors have practiced tissue-feeding, and all doctors of all drugging schools do it yet. It was reserved, however, for Schuessler to erect an exclusive medical system upon the tissue-feeding theory. Schuessler was consistent. He realized

that if tissue-feeding is correct with reference to any one disease, it is necessarily correct with reference to all diseases. Otherwise, owing to the coherency of natural analogy, Nature would contradict herself. Naturally, he concluded that tissue-feeding embraces the whole thing.

There are men with comparatively high foreheads who are practicing this exclusive system with extreme complacency. That their mortuary records do not compare unfavorably with those of legitimate therapeutists, constitutes a blistering satire upon the science governing our clinical methods. The moral is, that if they cure nobody (and they don't for any tissue-feeding reason) then, owing to their minute dosage and their hygienic strictures, they kill nobody. The circumstance holds a very vital hint for all of us.

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[Written for MERCK'S ARCHIVES]

## HEMORRHAGE OF THE BOWELS IN TYPHOID FEVER

By Alexander Thomson, M.D., Adair, Mich.

HEMORRHAGE of the bowels is a fairly constant symptom of typhoid fever. Unfortunately, it is a frequent cause of death. It generally occurs without warning, and may be in any amount, from a small piece of blood-stained fecal matter or mucus, to a loss of blood appalling in amount and sufficient to cause death in a few hours. Even when small in amount, it should be a warning, and every fecal evacuation of a typhoid patient should be carefully examined for traces of blood. The existence of blood at all in the stools is a proof that deep ulceration exists, and that an alarming hemorrhage may occur at any moment. In families where trained nurses are not employed, it is the duty of the physician, when a diagnosis of typhoid fever is made, to instruct the attendants regarding its pathology and the tendency to hemorrhage, and to provide them with remedies to control the hemorrhage should it occur during his absence. The physician should remember that while it is a dangerous symptom, it is not necessarily fatal, and that persistent efforts should be made to control it. This fact should be considered in all cases of typhoid, for if a modern rational treatment be boldly and persistently followed from start to finish, very many of these patients will recover.

In cases of hemorrhage the physician's services are urgently needed. He should be called at once and should respond to the call as speedily as possible. The hemorrhage may occur early in the time the patient is

under observation, in people who have fought the disease for days, or even weeks, before consulting the physician. Women are apparently more prone to bleeding than men and are also observed to bear it better. These cases are generally prolonged, and slow of recovery on account of the exhaustion and the deep ulceration in the bowels. Uncontrollable vomiting may follow hemorrhage. The temperature generally falls after a severe loss of blood, but in one case seen by the writer—a young lady aged twenty-one—after a hemorrhage amounting to nearly a gallon of blood, the temperature rose to 106° F., due probably to absorption of septic fluids from abscess cavities in different parts of the body. This patient recovered after an illness of five months. Another condition noticed is a puckering of the bowel at the seat of the ulceration, caused by scars forming when the ulcers heal. This may give rise to symptoms of obstruction, especially to the passage of gas through the bowel. I have one woman patient under observation who has griping pains six months after recovery.

Perforation of the bowel and death may occur at the seat of the hemorrhage after even a moderate loss of blood.

In the country, where the attendance of a physician is not readily available, the family should be provided with medicine to administer in case of hemorrhage. For this purpose a tablet of lead acetate,  $\frac{3}{4}$  grn., and opium,  $\frac{1}{4}$  grn., is safe and effective. It should be given at least every half hour or oftener if the case is urgent. The drugs useful in this condition are also as a general rule active intestinal antiseptics. Bismuth subnitrate in large doses is of great value, as is also bismuth subgallate, the latter being more astringent. The first indication is to quiet the bowels. They should, if possible, be prevented from evacuating their contents for from forty-eight to seventy-two hours, after which time they may be cautiously emptied with small enemata. The patient generally suffers nothing from the bowels being confined, but if an intense septicemia supervenes, the treatment will have to be varied to suit the case. Opium per os will generally suffice to quiet the bowel, but in cases of violent peristalsis and diarrhea, hypodermic injections of morphine may be in order. Tannin, lead acetate, and creosote are of value, the latter preferably in enteric pills. Capsules containing free doses of tannin, lead acetate, and one of the bismuth preparations in combination are quite effective. All medicines given for the control of hemorrhage of the bowels must be given in bold doses. So

great is the length of the bowel, and so large is the diseased area, that in case of emergency small doses of medicine will be lost and ineffective. The application of a light ice-bag over the right iliac fossa is of great value, both in reducing the hyperemia of that part, and in reducing the general temperature. For the thirst, cracked ice by the mouth is valuable. The seat of the ulceration is situated so high up in the bowel that treatment by astringent injections into the rectum will not reach the seat, and is therefore of little value. In cases of great irritability of the stomach, however, opium may be injected for its constitutional effect. Secondary hemorrhages are to be feared, but a few days after the loss of blood, the bowels can safely be opened. Castor oil has proved itself a safe cathartic in this condition.

[Written for MERRICK'S ARCHIVES]

### TREATMENT OF BLOOD-POISONING

By J. Byron Sloane, M.D., Detroit, Mich.

SOME three years ago I was called to see a lady who was suffering considerably with a sore toe, caused by an ingrown toe-nail. It had been troubling her for some days, was considerably swollen—in fact, the whole foot and ankle were involved, and the glands in the groin were enlarged and painful.

At the time, I was treating a case of erysipelas and was using a preparation of belladonna, aconite, and ichthyol, and had received such excellent results in reducing the inflammation and swelling that I decided to apply the same preparation (with the addition of opium and veratrum viride, as there was much pain) to her foot, as follows:

Tinct. Opium.....	4 dr.
Fld. Ext. Aconite.....	2 dr.
Ext. Belladonna.....	4 dr.
Fld. Ext. Veratrum. Viride....	3 dr.
Ichthyol.....to make	4 oz.

Apply every three hours.

The next day the pain was almost entirely gone, the swelling had disappeared from the foot, and likewise almost from the toe. In less than a week she was able to wear her shoe, and the toe gave her no more trouble after that.

Some time later I was consulted by a man who had stepped on a nail, it running almost through his foot, which was giving him considerable trouble. I prescribed the above mixture, to be applied as in the other case. I saw nothing more of him until a week or two later, when he informed me that his foot was perfectly well after a few days' treatment.

At Grace Hospital, during an operation for laparotomy, in which there was considerable pus and inflammation, I accidentally ran a needle into my thumb. I treated it at the time and soaked it in a bichloride solution, then paid no more attention to it, although it continued to be sore. About three or four days afterward I was awakened in the night by its paining me, and found it much swollen, although on going to bed there was no swelling. My arm pained me up to the shoulder, and there were several red streaks running up the arm. Remembering the fate of several other physicians who had had similar trouble that had come on just as this had, my first intention was to go to the hospital and have it operated on at once. I called a carriage and was going to stop on my way for some other physician to go with me and open up my thumb, when I remembered the solution which I had tried on others with such good results, so I decided to try it before going to the hospital. After making the application and applying a bandage, I lay down in bed and fell asleep, it being about 3 A.M., and I did not awaken until morning, when to my great surprise my hand and thumb were almost well, the swelling had gone, except at the end where the needle had entered, and there was no pain in my arm. I kept the solution on for a day or two and had no more trouble with it afterward. Since that time I have used it in several cases with the same good results, only one of which I will relate.

Mr. C. G., clerk at one of the hotels in this city, while out driving hurt the middle finger of his left hand, breaking the skin at the time. It did not heal and commenced to swell and fester at the abrasion, and a day or so afterward he was taken with a severe chill. On seeing him I found his temperature 104°, pulse above 120, and he was in great distress, as he ached all over. He did not say anything about his hand hurting him, so I gave him a prescription, thinking he was coming down with inflammatory rheumatism. About six o'clock the next morning I was telephoned to come at once, as Mr. G. had blood-poisoning. I found him much worse than on the previous day. His hand and also his forearm were swollen half way to his elbow, and the red streaks were very distinct all the way up to the shoulder, with a large lump in the axilla. He ached all over and had had several chills during the night.

I ordered the above prescription, gave him medicine to take internally, and sent him to the hospital. The solution was applied to the hand and forearm, and the

rest of the arm was soaked in ichthyol alone. In six hours—hardly seems credible—the pain had left his arm and hand, his temperature had dropped to normal, and in three days he had left the hospital well, and has had no bad effects from the trouble since.

Whether any or all cases would have recovered, as these did, from the use of ichthyol alone, I cannot say; still I will try it alone in a mild case the first chance I have. From my experience with this combination I do not think it would fail in a single case of blood-poisoning, if applied in the beginning of the attack, and I have reason to believe that it would cure a case well advanced. In such a case I would give it internally, as well as apply it locally.

32 High Street, East.

## THE TREATMENT OF CHOLERA INFANTUM<sup>1</sup>

By W. Blair Stewart, A.M., M.D.

WITH all due respect to the forgetful memory of parents, the author says it is usually wise to assume that the leading cause of cholera infantum is some dietetic error. If called early in the disease, carefully examine the child's gums to see that they are not at fault, and then make full inquiry if cathartic medicine has been given. If cathartics have not been administered with free results, give  $\frac{1}{10}$ -grn. doses of calomel every fifteen minutes until 1 grn. is taken; in one hour after the last dose give 1 or 2 teaspoonfuls of milk of magnesia, or the same amount of tasteless castor oil, to which has been added 5 to 20 drops of paregoric. Unless you obtain a thorough preliminary flushing from the small and large intestines, undigested and decomposing food and bacteria-infected material will be retained to cause future vomiting, and purging and other trouble. It is well at the same time to cleanse thoroughly the lower bowel with a full enema of thin starch water, to which has been added a few drops of carbolic acid, or with normal salt solution. This in many cases will constitute the entire medicinal treatment and cure.

In certain selected cases where there has been purging for some hours but no vomiting, a teaspoonful of equal parts of castor oil and aromatic syrup of rhubarb every two hours, until a full yellow stool is obtained, will answer. Some authorities recommend the administration of magnesium sulphate in 5- to 10-grn. doses, given with the smallest amount of water possible, every

one or two hours until the purging ceases and the movements change in color. The author's experience has been that this method will work better with adults than with young children. In most cases calomel will be found better.

If cases are complicated with obstinate nausea and vomiting, use:

Mild Mercurous Chloride.....	$\frac{1}{10}$ grn.
Dover's Powder.....	$\frac{1}{10}$ grn.
Bismuth Subgallate.....	1 grn.

Make into one capsule. One every one-half to one hour.

If this fails, try:

Bismuth Subgallate.....	16 grn.
Glycerite of Carbolic Acid.....	12 drops
Spirit Chloroform.....	1 fl. dr.
Elix. Lactopeptin.....	to make 2 fl. oz.

One teaspoonful every one-half to two hours.

At the same time apply a mustard plaster (mustard, 1 part; flour, 4 parts, mixed with tepid water and white of egg) over the epigastric region and keep it there as long as it can be borne. Keep the child absolutely quiet, and strictly avoid food, water, and liquids. A small piece of ice may be placed in the mouth or, if the child is too young, wrap the ice in a cloth and permit it to suck it. If vomiting still continues, teaspoonful doses of cold lime water may be found to relieve, but if this fails wash out the stomach directly, or indirectly by forcing the child to drink a large quantity of hot water to which has been added sodium bicarbonate (20 grn. to  $\frac{1}{2}$  dr.). Usually this will either be promptly vomited or retained and it will quiet the patient.

When purging and vomiting are accompanied by severe pain that cannot be quickly relieved by the measures outlined, promptly give a hypodermic injection of morphine and atropine—the dose to be governed by the age of the child. Some make this a routine practice. The author's experience has been entirely opposed to the general use of opium, but when any is used it has usually been in the form of Dover's powder. Spirit of chloroform will often relieve the pain if accompanied by other measures outlined. Cloths wrung out of hot water, to which a little oil of turpentine has been added, and applied to the abdomen systematically, give great relief. In the milder cases invariably use a spice-bag moistened with hot whiskey or dilute alcohol, applied to the abdomen and epigastrium, and keep it there until the trouble has completely subsided and convalescence is well established. A spice-bag is best made by taking 1 teaspoonful each of ground cinnamon, cloves, allspice, nutmeg and one-quarter teaspoonful of brown mustard; mix and quilt it between two layers of thin flannel.

<sup>1</sup> *Internal. Med. Mag.*, x, No. 7.

Never neglect to keep a flannel or woollen belly-binder over every child's stomach, summer and winter, as a means of protection from cold. Many a case of diarrhea and cholera infantum can be avoided by this precaution, provided the diet is also watched.

Should these measures fail, or if you are called when the first stage is past, other means must be tried. Bismuth, salol, zinc sulphocarbolate, beta-naphthol, etc., all have their advocates. If the case is a mild one and the subject is an infant or young child, try a trituration of  $\frac{1}{100}$  grn. each of calomel and ipecac every one to three hours. Next to this bismuth subnitrate, 1 grn.; zinc sulphocarbolate, 12 grn.; Dover's powder,  $\frac{1}{4}$  grn.; lactopeptin, 1 grn., every two hours in a child two to four years old serves well. Also a continuation of the bismuth-carbolic prescription given before. High starch water injections and flushings of the bowel, followed by an injection of bismuth and milk of asafetida or a small quantity of chloral or bromide if convulsive tendency is present, will all be found of use. The regular astringent injections the author has not found useful.

Fever is usually present after the first stages, and is best met not by the use of antipyretic remedies internally, but by sponging first with tepid water; if this is insufficient, then cold water; next a bath at 70° F. with friction, and then colder, if needed, until the child's temperature falls to about 100.5° F. Wrap the patient in a warm blanket and give stimulation as indicated—hypodermics of strychnine or whiskey may be used. Baths must be given cautiously, and only by an experienced nurse or when the physician is present. It is the author's custom to allow small amounts of cool water at frequent intervals, unless vomiting is present or straining is produced. When extreme vomiting and purging bring on depression bordering on collapse, with weak pulse and cold, clammy skin, try a hypodermoclysis of normal salt solution (1 pint) into the subcutaneous tissues of the back or buttocks. Repeat several times daily if needed. Transfusion of normal salt solution may also be used. These measures often work wonders and save many a child bordering on collapse. There is no use at this stage in trying rectal enemas, as they are expelled and, if retained, are slowly, if at all, absorbed. Delay stimulation until it is indicated and then use it freely in the form of strychnine, aromatic spirits of ammonia, or whiskey—in doses suitable to the age. Inhalations of oxygen will sometimes

tide the child over the danger point, particularly if associated with hypodermoclysis.

*Climatology and diet* are two of the most important features in the treatment of cholera infantum. The worst cases occur in hot cities, hot country towns, and in hot, stuffy quarters at the seashore or mountains. If the means of the patient will afford it, send the child from the close room to the seashore to live in the open air. We have often seen the wan look, sunken cheek, and bleared eyes brighten up almost from the moment the child is taken to the end of the piers, nearly a half mile at sea, where the sea-breeze is always obtainable. Sea-air with slight assistance from medicines will work many cures in apparently hopeless cases. The earlier in the attack the child is sent to some healthful seaside resort, the greater its chance of recovery. If circumstances do not permit of such a trip, place the child in the coolest room of the house, where free ventilation can be obtained; or, what is much better, on a cool porch. Do not nurse the child in the arms, but place it on a cool, solid bed where all motion can be avoided. Never rock the child in a cradle.

Always starve these patients the first twelve to thirty-six hours. If the child is breast-fed do not allow too frequent nor too prolonged nursing. This class of patients is the easiest to manage. In bottle-fed babies you will have your troubles. After the preliminary fast, begin with teaspoonful doses of barley, albumen, or toast water, and as this is well retained add small quantities of the best, pure, fresh milk mixed with lime water until the normal feedings can be borne. Many times it may be necessary to resort to some good prepared food in very small quantities where milk is not tolerated in raw or predigested form. Try a weak lamb, mutton or beef broth (absolutely free from grease and pepper) at first, and gradually add to this pure expressed beef juice, always watching to avoid too frequent or over-feeding. Do not try solid foods in older children until several days after all symptoms have subsided. These are good general rules or outlines of treatment, subject to change in each case.

### POSTPARTUM HEMORRHAGE<sup>1</sup>

By E. Stanmore Bishop, F. R. C. S., Eng.

OCCASIONALLY cases of postpartum hemorrhage are encountered which baffle all our routine measures, such as hot douches, ergot by mouth or beneath the skin, packing the uterine cavity, injections of liquor ferri, etc. The uterus remains

<sup>1</sup> *London Lancet*, No. 4050.



flabby and distended in spite of all our efforts, and unless something radical is done the patient will soon pass beyond the reach of help. And as there is no time in such emergencies to consult a book or a brother practitioner, every physician ought to have in his mind a definite plan of treatment for the condition in question.

What, then, should he do in a case of bleeding from the uterus after child-birth, supposing, as will happen at times, that compression of the uterus, ergot, injections hot and cold, and even packing have all failed to stop the flow of blood, and the danger of death is imminent?

After depicting in a remarkably realistic and vivid manner a case of fatal postpartum hemorrhage, Dr. Bishop says that the great and common error is to direct our efforts towards exciting uterine contractions. Rather should we consider that the uterine muscles, being exhausted in such cases, *cannot* contract efficiently, and resort to other methods of checking the hemorrhage. What do we do if a vessel of the leg is bleeding? Do we not raise the limb so that the bleeding spot is higher than the heart? And why not do the same in our emergency? Elevate the uterus until it is above the level of the heart. This is accomplished best and quickest by placing a table under the foot of the bedstead. Now that the patient lies in the Trendelenburg position, the venous flow of blood is controlled, and it remains to check the arterial. Bearing in mind that the bleeding uterine arteries come directly or indirectly from the aorta, we shall understand how compression of this vessel can stop the hemorrhage. We have only to press on the abdominal aorta with our closed fist to check the flow of blood from the uterus. While the compression is being kept up we can utilize the time by removing clots, membranes, etc., from the uterine cavity. As soon as the uterus recuperates and begins to contract firmly, the compression of the aorta may be gradually abandoned.

[This treatment of postpartum hemorrhage by compression of the aorta and putting the woman on an inclined plane, which is defended by Dr. E. Stanmore Bishop with remarkable earnestness and ability, is not new. It was Prof. Cazeaux who first proposed it, as early as 1845, in a paper read before the Medical Society of the Department of the Seine. In his text-book on "Midwifery"—which, by the way, is one of the best we are familiar with—he discusses the subject in detail and answers the objections of the opponents of compression of the aorta. In the seventh French edition he

states that compression of the aorta is useful not only for stopping the hemorrhage, but even after the hemorrhage has ceased. He says: "The fact is that when flooding has been profuse, all danger is not at an end even after we have succeeded in arresting the hemorrhage and have brought about contraction of the uterus. For although not a single drop of blood may be lost afterward, the amount of blood remaining in the body may no longer be sufficient to supply all the organs, and the brain at the same time, with the stimulus necessary for the proper maintenance of their functions; so that patients sometimes expire two or three hours after the arrest of the hemorrhage. In such cases death takes place simply because the remaining blood, being equally diffused through the entire circulatory apparatus, the brain and especially the spinal cord receive too small a proportion of it, and consequently do not receive sufficient stimulus to enable them to support the respiration and cardiac action. This being so, it is easy to understand that if by compressing the aorta we can prevent the blood discharged by the left ventricle from descending into the lower parts of the body and inferior extremities, it will necessarily be obliged to flow back to the brain, and thus secure for this organ the degree of stimulus which it needs in order to enable it to react in its turn upon the functions of the heart and lungs."—EDITOR.]

## THE TREATMENT OF INTESTINAL OBSTRUCTION WITH ATROPINE

By Various Authors

THIS method has been constantly gaining ground since its introduction by Dr. Batsch about two years ago and numerous reports from various sources testify to its efficiency. But negative results are as a rule seldom recorded, and thus our present statistical evidence, while strongly in favor of the new method, may be somewhat one-sided.

These considerations prevailed upon Dr. Bofinger<sup>1</sup> to report two cases in which the atropine treatment failed. The first patient was a man of fifty-three years, who had for some time suffered with symptoms suggestive of carcinoma. Suddenly in the course of the disease the phenomena of intestinal obstruction made their appearance, and were logically referred to a probable carcinoma constricting the intestinal lumen. Atropine injections of  $\frac{1}{15}$  grn. were administered three times, with scarcely any result beyond some relief of the pain. The

<sup>1</sup> *Munch. med. Woch.*, XLVIII, No. 17.

patient died on the same day. The autopsy disclosed a pyloric carcinoma and volvulus in the lower portion of the ileum.

The second patient, a woman aged fifty-six years, who had an inguinal hernia for years, was taken ill with symptoms of obstruction. Atropine,  $\frac{1}{30}$  grn., was given hypodermically, followed in three hours by a second dose of  $\frac{1}{30}$  grn. Untoward effects appeared after the second injection: burning in the throat, excitement, hallucinations, and light convulsions. Another dose of  $\frac{1}{30}$  grn. was given later on. No improvement. The patient was operated upon during the following night. Being in a semi-conscious, excited condition, she got out of her bed and in moving about loosened the dressings and injured the exposed intestine. Death followed. The author attributes the incident to the after-effects of atropine, and considers the treatment in incarcerated hernia to be only a last refuge, whenever an operation is positively denied or contraindicated. He strongly urges to operate when possible without waiting to give atropine a trial.

[The above two cases can hardly with fairness be classified as ones of intussusception or obstruction, pure and simple.]

An altogether different tone is noticeable in a case reported by Dr. Adam (*ibid.*). A man aged sixty-seven years developed severe intestinal obstruction. He was treated by olive oil internally (2 to 3 oz. at one dose) and an injection of atropine,  $\frac{1}{20}$  grn. subcutaneously. The single dose sufficed to bring about prompt improvement, which the author attributes in a great measure to the olive oil.

Still more enthusiastic is a paper by Dr. R. Gähtgens (*ibid.*) devoted to a case of obstruction treated by atropine and the extract of belladonna. Two injections of atropine,  $\frac{1}{20}$  grn. and  $\frac{1}{30}$  grn. respectively, were given in the course of the disease, besides, internally,  $\frac{1}{4}$  grn. of extract of belladonna every four hours, for six doses. Prompt amelioration and recovery resulted.

In the following case, reported by Dr. Middeldorpf (*ibid.*), the success was "phenomenal." The patient was a man of fifty-eight, with symptoms of intestinal obstruction. Being a bleeder, he could not be subjected to an operation and was consequently treated by atropine injections ( $\frac{1}{60}$ ,  $\frac{1}{40}$  and  $\frac{1}{30}$  grn.), with prompt success. The bowels moved repeatedly and recovery followed.

Dr. A. Robinson<sup>2</sup> also contributes the report of a successful case. In it he tries to show, moreover, that doses of  $\frac{1}{30}$  grn. of

atropine are sufficiently large and doses of  $\frac{1}{12}$  grn. unnecessary, besides offering dangerous possibilities. His patient was a woman of forty-five; she suffered with intestinal obstruction, and received in all three injections of  $\frac{1}{30}$  grn. of atropine sulphate. The bowels moved freely after the third dose, and recovery ensued promptly.

Dr. F. Moritz (*ibid.*) recommends the use of extract of belladonna in place of atropine in cases of intestinal obstruction. He has employed belladonna for years with success. The method was suggested by observing that extract of belladonna,  $\frac{1}{4}$  grn. every four to six hours, produces after six to ten doses excitation, dryness of the throat, and always free movement of the bowels. Atropine is more dangerous than belladonna, according to the author. In some cases opium must be given simultaneously; in others, enemata resorted to as adjuvant measures. A great advantage of this method is its adaptability to all kinds of cases and its freedom from dangerous after-effects.

Another very favorable report on the atropine treatment comes from Dr. F. Polack,<sup>3</sup> of Vienna. A woman of sixty-eight years was taken sick with bronchitis and cystitis. No defecation for two days. Enemata and cathartics failed to relieve the constipation. Tympanites and vomiting appeared and decided the diagnosis of obstruction. The condition of the patient soon became almost hopeless. Atropine injections ( $\frac{1}{30}$  grn. per dose) were resorted to. After two injections a rectal tube brought away liquid feces, and after a third injection spontaneous defecation occurred. The woman recovered completely. The author calls the action of atropine in this case simply magical.

## THE TREATMENT OF NEURASTHENIA OF TOXIC ORIGIN<sup>4</sup>

By M. Allen Starr, M.D., Ph.D., LL.D.

Professor of Nervous Diseases, Columbia University

THE protean manifestations of neurasthenia, bewildering though they are to the general practitioner, can nevertheless be grouped under certain fairly well-defined headings. Thus, a cerebral, a spinal or a vasomotor type may be differentiated symptomatically. Considered from an etiological point of view, we find one variety of the disease to be due to emotional overstrain, another caused by mental overexertion, another produced by organic nervous disease,

<sup>2</sup> *Therap. Monatsh.*, xv, No. 4.

<sup>3</sup> *Wiener-klin. Woch.*, xiv, No. 17.

<sup>4</sup> *Med. Record*, LIX, No. 19.

and finally a certain group of distinctly toxic origin. It is to this class that Dr. Starr draws our attention.

This variety usually visits poorly nourished women, or men somewhat past the prime of life, who have been good livers, indulging in the pleasures of the table and in the use of alcohol and tobacco. The disease manifests itself by a long train of symptoms, such as headache, great irritability, vasomotor disturbances, and digestive disorders of a functional kind. A distinct oscillation of the morbid phenomena is observed in the course of twenty-four hours, the greatest depression corresponding to the early morning hours on awaking. The spirits then rise gradually, and during the day a condition of comparative well-being supervenes, to alternate again with intense suffering at night. The fact that the height of distress is reached after rest and sleep clearly points away from exhaustion and towards intoxication as a cause. Some toxic agents must accumulate in the blood during sleep and produce the irritation on the nervous system. The exact nature of the poison is, of course, out of the reach of our present knowledge, yet we may safely look on the digestive tract as its source. Our management of the condition, though purely empirical, is able to bring about material help. It should proceed along the following lines:

*Diet.*—This must be carefully individualized. Speaking generally, such patients find meats to agree with them. Milk and eggs are seldom well borne. The same applies to meat-soups, while cream-soups are better tolerated. Fish of all kinds agrees well with such patients, as do also certain vegetables—rice, macaroni, and hominy. Cheese, potatoes, beets and tomatoes should be eschewed. Alcohol in every form must be avoided. Coffee is a permissible stimulant, but not tea, however, which will be found to disagree uniformly. Even coffee occasionally acts undesirably and must then be prohibited. Free drinking of water is beneficial.

*Medicines.*—The digestion must be assisted by remedies calculated to stimulate the liver and counteract the production of toxic matter in the intestines. Calomel in fractional doses at intervals of a week or ten days, alternating with podophyllin, will accomplish the first object. The second indication is fulfilled by administering intestinal antiseptics. The author gives 5 grm. of sodium sulphocarbolate with 1 grm. of potassium permanganate in a shellac-coated capsule after each meal and on retiring. If this does not achieve the purpose, one of

the following may be tried: a capsule of 5 grm. of salol and 10 min. of castor oil, rendered insoluble in the stomach by a coating of shellac, or a similar capsule containing sodium benzoate, 2 grn.; zinc sulphocarbolate, 1 grn., and beta-naphthol, 1 grn. The remedy selected should be given for a considerable period and steady improvement will not fail to follow.

Besides diet and medicinal treatment, a certain amount of exercise should be encouraged, and a hot bath (104° F.) taken for three minutes on rising in the morning, followed by cool sponging for a quarter of a minute.

Neither should the psychic element of treatment be neglected. The morbid introspection and depression can be counteracted by a regular and congenial occupation, especially if it takes the patient into an outdoor life. Travel and change of scenery may also be advised in suitable cases. But the essential indication is to check the continuous intoxication from the intestinal tract.

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### ECZEMA IN RELATION TO AGE<sup>1</sup>

By Malcolm Morris, F.R.C.S., Edin.

OUR present knowledge of eczema is far from being complete, and much confusion and contention exist on the subject. It is an established fact that eczema presents certain peculiarities corresponding to the age of the patient, and these are discussed by Dr. Morris as follows:

*Eczema in Infancy.*—The disease usually appears as a little circular patch on the scalp. The utmost attention should be given to this seemingly innocent patch, as it may become the focus of an eczema of the scalp. Every irritation of the skin should be avoided. Washing must be done gently and only superfatted soap employed, if at all. It is not necessary to keep the child's head covered. Locally, weak antiseptic applications are indicated, such as precipitated sulphur, 5 grm. to 1 oz. of benzoated lard. When the patch begins to discharge, drying applications, such as dusting powders, are called for. Boric acid or zinc oxide may be used, mixed with starch. The dusting is best followed by a soothing application, and the author recommends his "zinc cream," prepared of 7 dr. of zinc oxide, 1 dr. of wool-fat, 1 oz. of olive oil, and 1 oz. of lime-water. This cream may also be medicated with antiseptics, as ichthyol, ½ dr. to 3 oz. of cream. When the eczema passes into the dry, scaly stage, an ointment should supersede the cream, and here a

<sup>1</sup> *London Lancet*, CLX, No. 4053.

weak salve of ammoniated mercury is very suitable. It must be granted, however, that some cases obstinately resist all treatment and run a chronic course, in a few instances persisting with intermissions for a whole lifetime.

*Eczema in Childhood.*—At this age the disease shows usually the seborrheic type, beginning with circular or oval patches on the cheeks or forehead. These small initial areas of eczema should receive careful treatment. The general health must be attended to, besides local measures. It is advisable to send the children to the seaside, particularly if they show glandular enlargement and the family is disposed to tuberculosis. As to the existence of a relation between eczema and teething, the author's opinion is negative.

*Eczema at Puberty.*—Two chief forms occur at this time of life: the seborrheic and the dry type. The latter calls for appropriate treatment in the shape of emollient baths; that is, the dry parts are softened, after a prolonged bath, by means of glycerin and water, 1 part of glycerin to 5 of water. Besides, the usual remedies are to be applied. Another type of eczema at puberty alternates with attacks of asthma or rheumatism. This group requires internal treatment with nerve tonics.

*Eczema in the Adult.*—A severe general attack of eczema may follow exposure to cold. In such a case the patient must be put to bed and lightly covered, the diet should be bland, and the bowels opened by calomel and salines. Internally, nothing is better, according to the author, than small doses of tartar emetic;  $\frac{1}{32}$  grn. is sufficient for one dose, to be followed by a second an hour later, then a third three to four hours afterward; finally, the dose is to be taken three times daily. These attacks of general eczema seem to be favored by the free use of alcohol. Another form in the adult is intertrigo occurring about the scrotum, thighs, and arms. Local treatment is sufficient in these cases. A third common form in adults is varicose eczema, associated with varicose veins. The treatment is rest in bed, elevation of the leg, and the application of Unna's zinc glycerin jelly, which is made by mixing zinc oxide, gelatin, glycerin, and water. Chronic eczema of the leg is also very frequently met with. The efficient remedies are salicylic acid, resorcin, pyrogallallic acid, and chrysarobin, applied in the form of ointment.

*Eczema at the Menopause.*—The most common forms are acute eczema of the head and face. Other disorders, like flushing, sweating, headaches, etc., are present. The

best remedy is ichthyol, of which  $2\frac{1}{2}$  grn. should be given after each meal, later on increased to 5 grn., then upwards to 10 grn. per dose. Locally strong applications of sulphur and resorcin are efficient.

*Eczema in Old Age.*—The disease in old age is very troublesome and the constant irritation is so annoying to the patient as to interfere sometimes with sleep and nourishment. Even suicide has been committed by the sufferers. In these severe and unmanageable cases the use of opium is fully justifiable. Even if these patients become opium habitués, no great harm is done. They have but a few years to live, and those might as well be made comfortable.

## THE TREATMENT OF FEVER<sup>1</sup>

By Prof. Albert Robin, Paris

WHILE some authorities advocate active interference with fever by means of antipyretics and hydrotherapy, others are opposed to the use of antifebrile drugs and grant only the value of cold water. Dr. Albert Robin takes a point of view midway between these extremes, and justifies his opinion by a study of febrile changes. In simple febrile reactions the process of general and respiratory oxidation is augmented. On the contrary, in grave febrile infections this process is diminished. Therefore, an active antipyretic treatment in cases of the second kind really works hand in hand with the disease itself, by diminishing oxidation in order to lower the temperature. The danger of such a management is evident.

A rational treatment of fever ought to imitate Nature's curative efforts. These comprise increased oxidation, as we have seen, and increased elimination through the different avenues—intestinal, urinary, pulmonary, etc.

This method we must also follow in our therapeutic measures. In other words, toxic products must be eliminated or their destruction by oxidation encouraged. This object may be considered under three indications.

First indication—to diminish disintegration without diminishing oxidation, and to heighten the resistant powers of the organism. This indication is met with by stimulants and by quinine, which remedy diminishes disintegration effectually, but only if taken in moderate doses, 8 to 10 grn. daily. Large doses frustrate this purpose. On the other hand, all agents which diminish oxidation should be excluded, and such are our popular drugs: phenacetin, antipyrine, salipyrine, acetanilid, etc.

<sup>1</sup> Bull. gén. de Thérap., CXLI, No. 9.

Second indication—to favor oxidation and sustain the nervous system. This is accomplished by direct inhalations of oxygen, and by free drinking, particularly of milk. Hydrotherapy, by stimulating the nervous center, is also indicated, and is in this respect a remedy *par excellence*.

Third indication—to combat the retention of organic residues by (1) dissolving them; (2) maintaining the energy of the circulation, and (3) insuring activity of the eliminating avenues. Among the various solvents the benzoate and salicylate of sodium hold a high rank. Of these, the benzoate is preferable, since the salicylate exerts a noxious influence on the kidneys. The dose of sodium benzoate should not exceed 1 dr. daily. Finally, the use of saline purgatives and rectal injections will encourage the elimination of organic residual matter.

Such is Dr. Robin's outline of the rational management of fevers.

#### COPPER SALTS IN CHLOROSIS

Some forty years ago an Italian physician, Mendini, employed the ammoniated sulphate of copper in treating chlorosis. His special formula was as follows:

Ammoniated Copper Sulphate  $\frac{3}{4}$  grn.  
Confection Rhubarb .....  $\frac{1}{2}$  dr.

Make nine pills, one to be taken morning and evening.

Mendini obtained remarkable results in many cases of amenorrhea and in cases of chlorosis which had resisted all other remedies.

In 1887 M. Liégeois,<sup>1</sup> the author of this historical review, administered the aceto-phosphate of copper in chlorosis and confirmed its curative value. His formula was:

Neutral Copper Acetate.....  $\frac{1}{2}$  grn.  
Sodium Phosphate ..... 1 grn.

Make one pill, and coat with silver.

In 1890 the author read a paper on the treatment of chlorosis with copper. There are cases of chlorosis which resemble incipient tuberculosis sufficiently to make the diagnosis difficult. It was in these that the aceto-phosphate of copper gave brilliant results in the hands of the author.

The patients improved strikingly under copper medication: they gained in strength, the color of the skin and mucous membranes returned, disturbances of the viscera disappeared—in a word, the anemia was cured.

As to the mode of action, the author believes that copper does not aid directly in the formation of hemoglobin, as does iron, but rather indirectly by partly stimulating

blood-formation, and partly by aiding the assimilation of elements that go towards building up hemoglobin (iron, carbon, nitrogen, and sulphur).

A short time after the author's memoir was read, Dr. H. A. Hare, of Philadelphia, reported on the successful treatment of functional anemias by means of copper arsenite. He noted the general improvement, the returning color and subsidence of digestive disturbances following the administration of the remedy.

Such was the clinical evidence in favor of copper. The experimental demonstration of its efficacy was furnished somewhat later by Drs. Cervello and Barabini, who showed that by giving animals copper salts an increase of hemoglobin could be effected. Dr. Cervello then tried the remedy in two cases of malarial anemia with similar results, as shown by means of the hematometer.

The doses of copper sulphate are from  $\frac{1}{3}$  to  $\frac{1}{2}$  grn., with each meal, in powder form, with sugar (or in pills).

In the course of time an organic copper salt, cupro-hemol, was administered tentatively to anemic individuals. The results were good, but whether or not this organic preparation is superior to the inorganic copper salts remains undecided as yet. Cupro-hemol is made by adding a copper salt to fresh blood. The dose is 2 to 8 grn. three times daily.

In 1901 the author published another paper and again insisted on the therapeutic value of aceto-phosphate of copper in lymphatic and scrofulous chlorotic patients. This was followed shortly afterwards by a report on eighteen cases of chlorosis treated with copper acetate, by Dr. Giudiceandrea.

In conclusion, the profession is warmly advised to give the method a further trial.

#### ACETANILID POISONING

Dr. Jacob L. Manasse<sup>1</sup> reports two cases of poisoning by acetanilid used externally as a dusting powder. In the first case, that of a baby aged six weeks, a powder composed of equal parts of acetanilid and bismuth subgallate was frequently dusted on the inflamed buttocks. About twenty-four hours after the first application the baby became cyanotic and cold, the respiration feeble, pulse weak, pupils dilated. Under appropriate treatment the child recovered in three days.

In the second case the same dusting powder was used on a child of 2½ years, and the same symptoms developed. Under stimulating treatment the child was well in two days.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 11.

<sup>1</sup> *Internat. Med. Mag.*, x, No. 5.

# Progress in Materia Medica and Drug Therapy

## TREATMENT OF WHOOPING-COUGH

While whooping-cough is next to scarlet-fever the most fatal disease of childhood, our treatment of the affection is practically impotent, as witnessed by the endless list of "specifics" and other "infallible" remedies. Numberless drugs have been tested, rejected, again revived, and every now and then a new one is brought forward for trial.

Dr. J. E. Godson<sup>1</sup> has made an inquiry among general practitioners as to their personal experience, and the replies only bear out the indefinite state of the treatment. Belladonna, opium, the bromides, alum, antipyrine, are all spoken of as unreliable. The only drug which has found favor with those who gave it a trial is creosote, used in the form of an inhalation. Given internally the remedy is ineffectual and deranges digestion; employed as a vapor, it is highly beneficial. The first result is a diminution in the frequency of paroxysms, and somewhat later the individual attack also shows a lessened severity. A cure may be accomplished in five or six days, severe cases requiring weeks, however. The treatment does not interfere with other methods and appears to be free from danger, except when the chest is full of mucous râles, in which case caution is required. Moreover, the author claims a striking prophylactic success for this method, having never seen a case of infection in families exposed to creosote vapor.

Creosote vapor may be generated in various ways. A steam spray or a steaming kettle will answer, or the drug may be evaporated over an alcohol lamp; cloths sprinkled with the remedy can be suspended in the room, etc. The great desideratum is to insure continuous inhalation.

Simultaneously, antispasmodics may be administered internally, taking care to clear the lungs of mucus before resorting to this class of remedies.

## FORMALDEHYDE IN OTITIS

The family physician is very often called upon to treat otorrhea. Perhaps no other ear trouble is more obstinate and unamenable to treatment. Many children of the poor suffer from continuously discharging ears. Dr. N. G. Ward<sup>2</sup> has obtained good results with formaldehyde, which he employs as follows: The ear is first cleansed, and the pathological condition ascertained

in detail. If the perforation is small and will not permit free drainage, an incision is made. The head is inclined to the opposite side, and a solution of formaldehyde (5 drops to 1 oz. of water) is instilled with a dropper so as to fill the middle ear and the external canal. For home treatment, if the secretions are thick, lysol is ordered, 15 to 30 drops in half a glass of warm water, and the ear syringed with this by means of a soft-rubber pus-syringe. In cases not requiring syringing the patient is instructed to pour 5 to 10 drops of the warm formaldehyde solution into the ear night and morning, and to assume the horizontal position for ten minutes after. Forty cases were treated by the author with marked success, the discharge ceasing on the average in a week. In acute cases, weaker solutions of formaldehyde must be used, 1 to 3 drops to the ounce. This method promptly reduces small granulations and exercises a healing influence over ulcerations.

The nose and pharynx require attention in each case, and the general health should also receive consideration. Elimination is stimulated by calomel, sodium phosphate, etc. As a tonic, arsenic sulphide,  $\frac{1}{50}$  grn., or calcium sulphide,  $\frac{1}{4}$  grn., four times daily to a child of eight years, gives good results.

A number of reports from various other sources testify to the efficiency of formaldehyde in suppurative otitis media. The antiseptic qualities of the remedy have been demonstrated experimentally, it having been found that a solution of 1:2000 prevents the growth of anthrax bacilli. In the strength of 1:1000, formaldehyde arrests the development of typhoid and cholera bacilli, diphtheria germs, etc.

The employment of formaldehyde in otitis leads to a rapid disappearance of the fetid odor, the discharge ceases soon, small granulations are destroyed, and healing is promoted.

## MEMBRANOUS CROUP

Dr. Wm. F. Waugh<sup>1</sup> ventilates an old subject by discussing the existence of non-diphtheritic croup. According to the author, membranous croup does exist independently of diphtheria. The disease attacks children between the ages of two and seven, and is usually caused by exposure. Beginning with a hoarse, croupy cough and dyspnea, the affection gradually leads to

<sup>1</sup> *Birmingham Med. Rev.*, No. 272.

<sup>2</sup> *Amer. Med.*, 1, No. 11.

<sup>1</sup> *Med. Standard*, xxiv, No. 5.

suffocative paroxysms, and if proper aid is not now offered the issue is almost certainly fatal. Death ensues from intoxication with carbonic-acid gas or from acute bronchopneumonia.

Referring to treatment, the author recommends the judicious use of morphine to keep the child quiet and thus relieve the dyspnea. Retraction of the abdomen is a signal for intubation. But the ideal remedy for membranous croup is, according to the author, the iodized lime (not calcium iodide). The dose for a child is  $\frac{1}{3}$  grn. every five, ten or fifteen minutes until relief is afforded. The drug is not effective in *diphtheritic* croup, in which affection calcium sulphide pushed to its limit will be found very potent.

[Iodized lime is a loose combination of lime with an excess of iodine. The iodine is easily liberated. We have heard many favorable reports of this remedy in membranous croup.—ED.]

#### THE HYPODERMIC USE OF QUININE

In the treatment of malaria it becomes necessary under certain circumstances, such as persistent vomiting, unconsciousness, or abeyance of the absorptive functions in the digestive tract, to administer quinine hypodermically. Intravenous and intramuscular injections of the remedy have also been employed, but various disadvantages attach to these methods and make the subcutaneous exhibition preferable.

The latter mode of treatment has been given a thorough trial by Dr. Bluemchen<sup>1</sup> during his military service in South Africa. He experimented with the hydrochlorate, the sulphate, and the dihydrochlorate of quinine, of which salts the first proved to be best adapted for hypodermic use. It was found that 16 grn. of quinine hydrochlorate will dissolve in 16 min. of boiling water, and will not precipitate on cooling down to blood-heat. To this solution a diluted sodium-hydrate solution may be added, drop by drop, until the degree of alkalinity of the blood is reached. In order to destroy all germs contained in the solution, it may be boiled thoroughly.

The beginning dose for adults was 16 grn. of quinine, injected beneath the skin in the intrascapular region. Prompt action of the drug resulted. The administration of larger doses was followed occasionally by local necrosis.

The author draws these conclusions from his observations: A solution of 8 grn. of quinine hydrochlorate in 16 minims of hot

water, if injected with aseptic precautions under the freely movable skin, never causes any pain. In case local infiltrations make their appearance, which is an exceptional occurrence, they are painless, the skin above them remains unchanged, and no necrosis follows. The method is simple, requires but little time, and insures prompt action.

#### TURPENTINE AS AN ANTISEPTIC

Dr. Kossobudsk<sup>1</sup> has used glycerinated turpentine in the antiseptic treatment of wounds with marked success. The author's mode of preparing the liquid is to fill a sterilized bottle with glycerin and add a small quantity of turpentine, shake well and repeatedly, and let stand for two days; then add 5 per cent. of hydrogen peroxide. The mixture is now ready for use, and the author considers it very valuable as an antiseptic. It checks excessive secretion when applied to wounds, relieves pain and swelling, and promotes the healing process. This action is probably due partly to the oxygen liberated, partly to the chemotactic properties of the turpentine.

#### THE TREATMENT OF EPILEPSY

Epilepsy is a disease which is seen almost daily by practitioners, and the sufferers from this affection deserve the sincere sympathy of all.<sup>2</sup> Besides the sympathy which is their due, the best efforts of all practitioners should be directed to the relief and cure of this grave malady.

In practice epilepsy assumes two types, which differ in degree, not in kind. These are *epilepsia gravior* (or *grand mal*) and *epilepsia mitior* (or *petit mal*). *Grand mal* is the severe expression of the disease, while *petit mal* is a brief suspension of sensation and very slight muscular twitching.

Injuries to the head are responsible for a certain number of cases of epilepsy. Dr. Allen McLean Hamilton has found that nearly 50 per cent. of the cases of epilepsy he has studied are due to hereditary causes. Masturbation is very frequently a cause of epilepsy when it develops about puberty. Charteris and others have made this observation a great many times. Tumors and exostoses of the interior of the cranium are causes which suggest themselves at once. The etiological factor or factors are, however, often so obscure as to elude detection.

The bromides may be said to enjoy a greater degree of favor than any other class of remedies. There is no leading observer

<sup>1</sup> *Dent. med. Woch.*, XXVII, No. 17.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 7.

<sup>2</sup> C. W. McIntyre in *Med. Bulletin*, XXIII, No. 5.

or good clinician who does not place his main reliance on the bromides. Yet it must be said that the bromides are open to many objections. These objections, the author states, were not encountered when bromipin was employed. This drug answers the exact therapeutic demands of the bromides, but has none of the drawbacks which we encounter in the bromides of potassium, sodium, etc. It has, in a word, the merit of being a pure bromine solution without the impurities and other drawbacks which are common to the salts. Bromipin is a yellow, oily fluid which contains 10 per cent. of bromine. The author generally prescribes it in emulsion. The dose of bromipin is 1 to 4 fluidrams three or four times daily, as may be indicated by the case in hand. The following is a favorite prescription of the author's for the exhibition of bromipin:

Bromipin.....	2	oz.
Simple Syrup.....	2	oz.
Spt. Peppermint.....	2	dr.
Mucilage Acacia,.....to make	8	oz.

1 to 4 tablespoonfuls three or four times daily.

This makes a most palatable emulsion, which no patient will object to in the least.

A much better and more palatable formula was printed in the ARCHIVES for June (p. 245), as follows:

Bromipin.....	2	oz.
Yolks of Eggs.....	2	
Brandy (best quality).....	1½	oz.
Menthol.....	2½	oz.

Dose: Tablespoonful several times a day.

The author reports the following four cases: A girl, aged eighteen years, was brought to the author's office for treatment of epilepsy which had been in existence for the past two years. The attacks usually came on in the night, and she would bite her tongue and froth at the mouth. She was put on the emulsion, taking a tablespoonful an hour before meals and on going to bed. This was continued for six weeks, when the author saw her again and was told she had had no further attacks. This girl's epilepsy, he believes, was probably due to masturbation. This habit was quitted, and after taking the bromipin two months she was free from the attacks, and they have not returned in more than a year.

An old soldier had been struck on the head in a battle by a spent ball and had a slight cranial depression. He would not permit an operation looking to the lifting of the bone from the brain. He was tired of the bromide salts, which he had to take now in large quantities. The author gave him the bromipin in emulsion. This kept off the epileptic attacks, and it was not necessary to increase the dose.

A boy, aged fourteen, was also treated

for epilepsy. He had been subject to epileptic attacks for the past four years. The fits were now coming on more regularly. The author could not arrive at the etiology of this case—other than that he came of a neuropathic parentage. He was physically in good condition. His diet was carefully regulated and he was put on bromipin. He ate a very light supper each night; only bread and milk in moderate quantity. This boy continued the remedy, in all, three months, and has had no further attacks. He still adheres to dietary restrictions, but takes no medicine.

A young woman, aged twenty-one, had well-marked attacks of *petit mal*, which were growing in frequency and severity. This was due to heredity, her mother being an epileptic. She was put on a restricted diet and required to take bromipin with regularity. This acted very happily, the convulsions ceasing after the patient had taken the treatment for two months.

#### TREATMENT OF PUERPERAL FEVER

Dr. Steiner<sup>1</sup> reports four cases of puerperal fever treated, in addition to the usual measures, with injections of Marmorek's antistreptococcic serum. The routine treatment comprised the ice-bag to the abdomen, and quinine and opium, besides vaginal and uterine douches. Arising complications were managed according to indications. The results obtained from Marmorek's serum were not encouraging. Abscesses developed at the sites of the injections in one case, and in all the effects of the serum were not clearly defined.

To prevent the rigor sometimes following an intrauterine douche, the author recommends 8 grn. of quinine, given half an hour before the injection. In giving opium, care must be taken not to interfere with the activity of the bowels.

#### PURGATOL: A NEW LAXATIVE

This new synthetic is the diacetyl ester of trioxy-anthraquinone. It is a yellow, crystalline powder, insoluble in water and dilute acids, but soluble in dilute alkalies (producing a solution of a dark, violet-red color). It, therefore, passes the stomach unchanged, decomposing only in the intestinal canal. The remedy colors the urine blood-red. Prof. Ewald<sup>2</sup> has tried purgatol in about fifty cases of chronic habitual, and also temporary, constipation. The usual doses were 8 to 15 grn. in powder or tablet form—the tablets are preferred by the author.

<sup>1</sup> Brit. Med. Jour., 1901.

<sup>2</sup> Therap. d. Gegenw., May, 1901.



The remedy works slowly, usually in twelve to eighteen hours; it is a good laxative, producing a large, soft, non-watery discharge, and causing no griping pain or tenesmus. It has the same disadvantage as rhubarb and some other cathartics; namely, after its use the bowels again become constipated. Its advantage lies in its perfect tastelessness and in its non-irritability. No success is to be expected from the remedy in cases of constipation caused by mechanical obstruction, or by severe injury to the nervous system, or, in fact, in any case of secondary or symptomatic constipation; but in purely atonic conditions of the intestine and in functional constipation the drug gives prompt and lasting results.

#### RESORCIN POISONING

It is best to avoid administering resorcin to very young infants. Readers will perhaps recollect the case of a New York physician who was sued for heavy damages for the death of a young child, caused, as the mother claimed, by the administration of resorcin in too large doses. Dr. Brudzinski<sup>1</sup> reports the case of a female infant one month old, whose death was caused by a very small dose of resorcin— $\frac{1}{8}$  gm. [?]. The autopsy revealed an acute infectious degeneration of the kidneys. [Which might have been present prior to the administration of the resorcin and been the real determining factor in the fatal issue.—Ed.]

#### IODIPIN IN SYPHILIS

Dr. R. Chernbach,<sup>2</sup> hospital physician in Husi, Roumania, reports two very severe cases of syphilis in which he used iodipin. The first case was a woman of twenty-eight, who had deep purulent and ill-smelling ulcerations on the left cheek and on both feet. The patient was weak and emaciated, and her general condition was very bad. Yellow mercurous iodide and potassium iodide were ordered internally and the ulcers were treated locally. After eight days the mercury had to be discontinued on account of stomatitis making its appearance. Treatment with iodipin was then commenced. For two weeks the patient received a daily hypodermic injection of 5 Cc. (75 min.) of the 25-per-cent. preparation. On leaving the hospital her general condition was good.

The second case was a girl of sixteen, affected with the severest kind of cachectic and destructive syphilis. She had large ulcerations on the fauces, pharynx, and tonsils. The uvula was completely destroyed.

The anemia was severe. She was given yellow mercurous iodide, and the 10-per-cent. iodipin was injected hypodermically in doses of 10 Cc. ( $2\frac{1}{2}$  drams). After three weeks' treatment the ulcerations in the throat were healed. The general condition was satisfactory and the anemia was improved.

The author says that (1) the injections were practically never painful; (2) the local reaction was very slight; (3) the action of the iodipin became noticeable in a very short time and in a most remarkable manner; (4) at no time did the injections cause a rise in temperature.

#### THE TREATMENT OF OBSTINATE VOMITING

Apropos of a severe case under his care, Dr. A. Robin<sup>1</sup> discusses the general management of rebellious vomiting. The first indication calls for absolute rest, to be instituted by stopping all feeding by mouth and resorting to rectal alimentation. Nothing more than ice-pellets should be allowed by mouth, and the usual nutrient enemata administered. After a rest of three or four days the stomach will become more retentive and natural feeding may be gradually resumed.

Another method, which can be resorted to if the above fails, is the application of a fly blister to the epigastrium, a measure especially adapted to the vomiting in typhoid fever. The nourishment should at the same time be taken in very small quantities and frequently.

An interesting therapeutic measure for vomiting is the inhalation of oxygen, first employed in the vomiting of pregnancy, but equally suitable to other forms. Finally, when all other efforts fail, lavage of the stomach should be given a trial.

#### ATROPINE IN INTESTINAL OBSTRUCTION

As a general rule, surgeons are not inclined to experiment with internal medication in cases of intestinal obstruction. Many cases land in the hospital after futile attempts at medical treatment; in others, surgical intervention is imperatively called for, and only in a small number is a trial with drugs advisable, either because an operation is contra-indicated or offers but little hope of success. Dr. G. Haemig<sup>2</sup> has had an opportunity of dealing with a case of the latter kind. A man of fifty-nine years had undergone an operation for extirpation of the right cancerous kidney. The growth was found to be very extensive, involving

<sup>1</sup> *Rev. de Thérap. Méd.-Chir.*, LXVIII, No. 8.

<sup>2</sup> *Medico*, May 1, 1901.

<sup>1</sup> *Bull. gén. de Thérap.*, XLI, No. 20.

<sup>2</sup> *Munch. med. Woch.*, XLVIII, No. 23.

adjacent structures. Accordingly, the intestines and the peritoneum had to be disturbed more than is usually the case. The patient was making a smooth recovery, when gradually symptoms of intestinal obstruction developed. Enemata were ineffectual. Collapse supervened rapidly, and was counteracted by means of camphor injections. Fecal vomiting appeared, together with tympanites and abdominal pain. Evidently peritonitis had set in. The symptoms continuing for some time unabated, a last chance was given the patient,  $\frac{1}{30}$  grm. of atropine sulphate being injected. Half an hour later the pupils were dilated to the maximum, and the man fell asleep. He woke up after two hours in a delirious, excited condition. The exhilaration gradually subsided and, as a result of the injection, wind was finally passed. Later a movement of the bowels followed an enema, and the patient rapidly rallied. Hallucinations and thirst persisted for two days as the after-effects of the atropine. The exact nature of the case is unknown. Probably the obstruction was due to paralysis of the intestines. The features to be emphasized are the prompt success of the atropine injection, and on the other hand, the severe symptoms of intoxication following it.

[See also collective report on the treatment of intestinal obstruction with atropine, p. 304 of this issue.]

#### HOMATROPINE AS A CYCLOPLEGIC

Dr. Edward Jackson<sup>1</sup> states that in his experience he has found homatropine hydrobromate a reliable and effective cycloplegic (*i. e.*, paralyzer of the ciliary muscle, the muscle of accommodation), and when properly used equally satisfactory in children and in adults. The best method of application is in the form of a  $2\frac{1}{2}$  to 3 per cent. solution, 1 drop being instilled on the upper corneal margin every five minutes until 5 or 6 drops have been used. It rarely produces symptoms of intoxication.

#### TREATMENT OF SMALLPOX

Prof. Courmont<sup>2</sup> and his assistants at the Lyons Smallpox Hospital attach great importance to treatment in combating the complications of smallpox. Hygienic attention, isolation of cases of broncho-pneumonia, and suppression of dry-sweeping in the wards will prevent a considerable number of pulmonary disorders. They organized a regular service of baths, which worked from

morning to night. Each patient got a lukewarm bath of from fifteen to twenty minutes' duration every day. One ounce each of bichloride and of tartaric acid were put in the bath. A spray of bichloride, 1:500, was used for the face, several times a day, a wad of cotton being placed over the eyes as a protection. Clean bedsheets were constantly used. Results of bathing, besides cleanliness, were: Diuresis, sleep, and relief from suffering. In but 1 of 792 cases was slight ptialism observed, with some general disorder of slight duration. In the ocular disorders of smallpox the following formula was employed, and proved very useful:

Methylene Blue (medicinal)..... 3 grn.  
Distilled Water ..... 3½ oz.

Every patient having a vesicle or pustule on his conjunctiva, or even a simple conjunctivitis, had drops of this solution introduced into his eyes five or six times a day. Forty-five cases of eye-disease were treated without the loss of an eye. Prior to the introduction of this treatment, four patients had lost their eyesight through smallpox, although the bichloride and biniodide of mercury had been employed in subconjunctival injections. Red light (Finsen) was tried in four cases and pronounced practically useless.

#### METHYLENE BLUE IN NEPHRITIS

Dr. Neustab<sup>1</sup> has given methylene blue (medicinal) in 24 cases of acute parenchymatous nephritis, among these being 18 cases of scarlatinal nephritis in children. In all cases satisfactory results were obtained. Methylene blue brought about a disappearance of albumen and edema, ameliorated the blood-composition and checked the hematuria. The author remarks that neither hot baths nor any other drug ever gave similarly rapid and favorable results.

#### ADRENALIN AND ADRENALIN CHLORIDE

Adrenalin is the active principle of the suprarenal gland. It is used at present quite extensively, and several papers on the subject have appeared recently in the medical journals. Dr. Fletcher Ingals<sup>2</sup> has used it experimentally in quite a number of cases and is satisfied with the results, though in some cases a solution of the gland made up according to the following formula seemed to yield better results: Suprarenal gland, dried, 1 dr.; boric acid, 16 grn.; cinnamon water, 4 dr.; camphor water, hot, 1 oz.; glycerin, 1 dr.; distilled water, hot, to make 2 oz.

<sup>1</sup> *Annals Ophthalmology*, 1901.

<sup>2</sup> *Canad. Jour. Med. and Surg.*, June, 1901, p. 445.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 6.

<sup>2</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 17.

Experiments were also made with insufflations of a dry powder consisting of 75 parts each of sodium borate and sodium bicarbonate; 150 parts light magnesium carbonate; 1 part of adrenalin, to 5,000 parts sugar of milk. This powder cleared the nasal cavities when obstructed by swelling of the turbinated bodies, and diminished the secretions decidedly. A case of daily epistaxis was relieved by sprays of a 1:10,000 solution. Another of conjunctival congestion from overwork was entirely relieved by the instillation of a similar solution. The author has had equally satisfactory results in cases of conjunctivitis, laryngitis, acute and chronic; acute laryngitis with edema glottidis; acute coryza, chronic laryngotracheitis with acute exacerbation, and in preparation for operations upon the nose.

From his experience the author believes that adrenalin will be of great value in the treatment of acute inflammatory affections of the nasal cavities, either in sprays of 1:5,000 or in powders of 1:5,000 to 1:2,500, of sugar of milk. In acute coryza and in hay-fever, in epistaxis from various causes, in acute inflammation of the fauces, solutions of 1:1,000 will have good effects. In acute or subacute laryngitis, solutions of 1:1,000, applied with moderate force, will give very great relief; it appears probable that vocalists may obtain sufficient relief from congested cords to be able to use their voices for two or three hours with comparative ease. As adrenalin chloride solution seems to spoil in a few days, a fungus forming at the bottom of the vessel, the author advises mixing it with a solution of boric acid, cinnamon water, and camphor water.

Dr. Emil Mayer<sup>2</sup> has also had very favorable results with solutions of adrenalin in various strengths. He used 1:1,000, 1:5,000 and 1:10,000 solutions. His cases were all rhinological. Blanching of tissues followed the application of the strongest of these solutions in a few seconds, and was very thorough. In no instance was there any constitutional disturbance. He has employed no suprarenal extract since, for any purpose whatever.

The physiological effect of the solutions did not seem to be altered by their change to a pink color; they were used for six weeks. Subsequently a small amount of chloretone was added to the fresh solutions, and now there is but slight change of color and no flocculent precipitate appears.

Thirty-five cases are reported, showing that the usual effect of the aqueous extract of the suprarenal gland was obtained. A

few operative cases bled freely, but in every instance the hemorrhage was promptly checked by a second application of adrenalin. The adrenalin was used not only as a hemostatic, but for the relief of nasal congestion, as a diagnostic aid, and for the continuous treatment of acute inflammatory affections of the accessory sinuses.

The author thinks the following conclusions are justified: (1) Adrenalin solutions supply every indication for which the aqueous extract has been used. (2) They are sterile. (3) They keep indefinitely. (4) Solutions of 1:1,000 are strong enough for operative work, and 1:5,000 and 1:10,000 for local medication. (5) They may be used with safety.

#### ICHTHYOL IN TRACHOMA

Dr. Belevitsch<sup>1</sup> has employed ichthyol in trachoma in the form of instillations (10 to 20-per-cent. solution in glycerin and water), after having anesthetized the conjunctiva with cocaine. The instillations are practised once or twice daily. Under this treatment diffuse infiltrations of the conjunctiva in trachoma of not very long duration disappeared in a week's time; the follicles diminished in size, and no new ones were formed. In chronic cases the purulent secretion was arrested with surprising rapidity. Even in cicatricial trachoma ichthyol has been of value by cleansing the conjunctiva and reducing the infiltrations. It is also very efficacious in corneal pannus.

As an untoward result may be mentioned severe orbital pains, which, however, disappear in a short while.

#### AGURINE, A NEW DIURETIC

This is a combination of theobromine and sodium acetate. It is recommended by Destrée<sup>2</sup> as the best combination of theobromine, being non-irritating, very soluble in water, and acting in small doses. He found it to have a good diuretic effect in doses as small as 4 grn., the effect lasting for some time after the discontinuance of the remedy.

#### HELIOSIN IN SYPHILIS

Dr. Lichatscheff<sup>3</sup> reports on the use of heliosin in syphilis, as recommended by Lalande. Heliosin is prepared by the action of sodium chloride on the horns of young calves, and is said to contain keratin, calcium phosphate, calcium sulphate, sodium chloride, and potassium sulphate. It is a transparent liquid, of a strong salty taste

<sup>2</sup> *Phil. Med. Jour.*, VII, No. 17.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 6.

<sup>2</sup> *Bull. gén. de Thérap.*, June 30, 1901.

<sup>3</sup> *Rev. de Thérap.*, LXVIII, No. 6.

and nauseating odor. The author employs subcutaneous injections of the substance, at first two syringefuls daily, then the same dose every other day, and finally one syringeful every second day. The results were very favorable—the general condition was ameliorated and the specific lesions disappeared after fifteen injections, on the average.

The new remedy, the author thinks, deserves attention and may have a future in store for it.

[Dr. Zakrepa used it in two cases with absolutely negative results, as reported in *Vratch*, xxi, No. 17.—Ed.]

#### ETHYL CHLORIDE IN LUPUS

Dr. Dethlefsen<sup>1</sup> reports a case of lupus of the face, the disease affecting the nose and cheek extensively, in which freezing with ethyl chloride produced a most remarkable result. The ethyl chloride was sprayed directly on the diseased parts without previous scraping. During the first week the freezing was done daily, later every second or third day. After each freezing a serous effusion took place, which dried up into a scab; the scab was removed before the next application. After ten weeks' treatment the ulceration was healed, the lupus nodules had disappeared, and the whole was covered with smooth skin of almost normal appearance.

#### SANTONIN IN THE LIGHTNING PAINS OF TABES

It is well known that santonin exercises a particular influence over the retina. This fact suggested the trial of the drug in certain disturbances of sensation. Thus, Dr. C. Negro<sup>2</sup> has employed it with good results in the lancinating pains of locomotor ataxia. Not over 3 grm. of santonin are given daily, 1 grm. every three hours. The pains readily subside and complete relief follows in a few days.

#### FORMALDEHYDE IN DIPHTHERIA

Dr. A. N. Blodgett<sup>3</sup> has found formaldehyde gas very efficient in the treatment of diphtheria. The patient is exposed to the continuous inhalation of formaldehyde vapors by the evaporation of a 2-per-cent. solution of the ordinary formaldehyde of commerce. Towels are saturated with this solution and hung up in the sick-room, while a double sheet is arranged in the entrance to the room. Thus a continuous saturation of the air with the disinfectant is

insured. The patient with diphtheria can be kept for days or even weeks in such an atmosphere without experiencing any irritation from the gas.

The germicidal value of formaldehyde has been experimentally demonstrated in these cases by successive culture tests. It was found that the culture rapidly became less abundant and soon gave negative results. The employment of formaldehyde is absolutely free from any danger or discomfort to the patient, even if the air of the sick-room is intolerable to those entering. Protection to others is also insured if formaldehyde is used.

#### IDIOSYNCRASY TO GELSEMIUM

Dr. Thos. H. Amyot<sup>1</sup> reports the case of a young woman who had taken a dose of a "neuralgia mixture," and half an hour later became dizzy and semi-conscious. She complained of headache and blindness. The pupils were dilated and insensitive to light, the upper eyelids drooping. Spasmodic contractions of the abdominal muscles were observed, and the patient staggered when walking. An emetic was administered, and a night's rest sufficed to restore her almost completely. On investigation, the "neuralgia mixture" was found to contain tincture of gelsemium, about 10 min. in each dose, which sufficed to produce the above symptoms. Ordinarily this amount may be taken with perfect safety.

#### IODOFORM IN THE TREATMENT OF ENDOMETRITIS

Dr. Jay G. Roberts<sup>2</sup> has widened the broad field of usefulness already occupied by iodoform. In addition to the numerous and various services rendered by this drug, the author proposes to apply it in the treatment of purulent endometritis. The method was suggested by the close resemblance of the infected uterine cavity to tubercular cavities, which, as is well known, have long been treated by injections of iodoform-glycerin emulsions.

The author gives the following formula:

Iodoform.....	2 parts
Starch.....	1 part

Mix, and add:

Glycerin.....	20 parts
Water.....	12 parts
Creolin.....	0.3 parts

Stirring gradually, heat up to 27° F.

This emulsion may be injected by means of an ordinary syringe or a small glass syringe with a soft-rubber nozzle, about 2 inches in length.

After placing the patient in the dorsal

<sup>1</sup> *Epid. Brit. Med. Jour.*, No. 2106.

<sup>2</sup> *La Sem. méd.*, xxi, No. 9.

<sup>3</sup> *Boston Med. and Surg. Jour.*, cxliv, No. 17.

<sup>1</sup> *Brit. Med. Jour.*, No. 2098.

<sup>2</sup> *Phila. Med. Jour.*, vii, No. 11.

position, with hips well elevated, the cervix is exposed by means of the bivalve speculum, and all secretions thoroughly removed. The vaginal fornices as well as the cervix are then mopped with some antiseptic solution, followed by hydrogen dioxide. Thereupon the emulsion is injected to the amount of about 4 Cc. (1 dr.), the syringe withdrawn and the cervix plugged. The quantity injected may be gradually increased to 8 or 10 Cc. (2 to 2½ dr.). The injections should be repeated every second or third day. This method has been tried by the author in numerous cases of endometritis, both simple and purulent, with uniformly good results.

#### TROPACOCAINE IN SPINAL ANESTHESIA

Dr. D. de Almeida<sup>1</sup> reports a series of major operations which he performed successfully under spinal anesthesia. The anesthetic used was a 2-per-cent. solution of tropacocaine. In none of the cases were any disagreeable symptoms noted. No mydriasis, headache, or vomiting.

#### PNEUMONIA IN CHILDREN

Dr. Louis Fischer<sup>2</sup> outlines the treatment of the disease in childhood as follows: To begin with, the author believes that pneumonia can be aborted by vigorous measures adopted early. Thus, a mustard foot-bath together with aconite (1 drop of the tincture every hour for six doses) and spirit of mindererus in half-dram doses will establish free diaphoresis, reduce temperature, and frequently abort the trouble.

The disease once established, the treatment is symptomatic and supportive. An important problem is that of managing the fever, and it must be borne in mind that the temperature taken alone is no reliable guide. Some children tolerate a temperature of 105° F. very nicely, while others are heavily affected by one of 103° or 104° F. Whenever the child shows evidence of intoxication, when marked nervous symptoms make their appearance, the reduction of temperature becomes imperative, and this is best accomplished by spraying with diluted alcohol. The use of antipyretic drugs is to be strongly condemned on account of their depressing properties. When fever continues in spite of sponging with alcohol and water or with acetic ether, a cold compress may be applied to the body and renewed about every half hour, if necessary.

The use of hot poultices in pneumonia, a measure of great popularity years ago, has

been pretty generally abandoned. The oil-silk pneumonia-jacket is also best left out, and reserved for catarrhal pneumonia in children. The gastro-intestinal tract should be cleared out by the judicious use of calomel, and the kidneys stimulated by free allowance of water. Another good diuretic for young children is coffee, sweetened and mixed with a little milk. The value of anti-pneumococcus serum is as yet uncertain, although the principle, that of neutralizing the toxins of the disease, seems plausible enough. Hygienic treatment should receive our full attention. The sick-room ought to be thoroughly ventilated, and whenever possible the windows opened to admit sufficient oxygen.

Great dyspnea and cyanosis may be efficiently relieved by alternate hot and cold bathing. The child is immersed for a few moments in water at 100° to 105° F., and then placed in water at 70°, to be again removed to the hot bath a few seconds later. This procedure acts as a powerful peripheral stimulant and is most potent in counteracting heart failure. While in the water the child should be rubbed briskly.

A most important indication in pneumonia is to support the patient by good nutrition. Milk, seltzer and milk, meat-juice, soft-boiled eggs, meat-soups, etc., are all permissible, and rectal alimentation may be resorted to if necessary. Coffee, Hoffmann's anodyne, and alcohol in the form of whiskey or brandy are indicated in heart-weakness.

Troublesome cough is best met by codeine in small doses, ⅓<sub>10</sub> grm. every two to three hours, for a child one year old; half the quantity for younger children.

#### NAPHTOL-CAMPHOR WITH STEARIN IN EXTERNAL TUBERCULOSIS

Dr. Pesme<sup>1</sup> treats external manifestations of tuberculosis locally by injections of naphthol-camphor. The preparation used is as follows: An ordinary stearin-candle is melted and allowed to boil for ten minutes in order to sterilize it; naphthol-camphor is now added, 1 part to 3 parts of the stearin, and the mixture well agitated to insure uniform distribution. This mixture is solid at ordinary temperatures. Before use it has to be liquefied by heating. The syringe should also be warmed to prevent the substance from solidifying inside of the barrel. The remedy is then injected into the fistula, or simply applied to the tuberculous ulcer, where it rapidly becomes solid and thus insures permanent contact with the wound.

<sup>1</sup> *Brasil-Medico*, May 8, 1901.

<sup>2</sup> *N. Y. Med. Jour.*, LXXIII, No. 17.

<sup>1</sup> *La Sem. méd.*, XXI, No. 14.

**ARECOLINE HYDROBROMATE IN OPHTHALMOLOGY**

Maximoff<sup>1</sup> has experimented with the arecoline hydrobromate in ocular affections. His observations justify the conclusion that the drug is a powerful myotic, superior in all respects to pilocarpine. The instillation of a  $\frac{1}{2}$  to 1-per-cent. solution produces in ten minutes a maximal contraction of the pupil. The drug also causes a considerable but rapid spasm of accommodation. The energy and rapidity of its action render it superior not only to pilocarpine, but to eserine as well. The latter has, however, a more lasting effect. Moreover, the remedy, while not markedly affecting intraocular pressure in the normal eye, diminishes considerably the pressure in glaucoma. In spite of its somewhat irritating properties, the author states that arecoline hydrobromate is probably destined to occupy an important place in ocular therapeutics.

**TREATMENT OF TYPHOID FEVER**

Dr. H. H. Tooth<sup>2</sup> records some experiences of the enteric-fever epidemic among the troops in South Africa. Regarding treatment, the author condemns the view that typhoid fever requires but little medical attention, the principal management falling to the part of the nurse. The manifold dangers should be carefully considered and the symptoms treated promptly. As to diet, the author holds the view that food may be given much more liberally than is usually done. If the stomach possesses its normal digestive power, even such articles as meat are not likely to reach the ulcerated intestine in a dangerous form. On the other hand, if there are indications of impaired digestion, great caution is enjoined. The stimulants used were alcohol, digitalis and strychnine, the first rather sparingly and the last freely. Symptomatically, headache was met by phenacetin in doses of 5 to 10 grn., or somewhat larger doses of antipyrine. Phenacetin proved an equally useful remedy against the insomnia, and only occasionally was morphine required. Mouth and tongue were kept clean by means of mouth washes, and in severer cases of dry, cracked tongue a mixture of potassium chlorate and sodium bicarbonate acted most beneficially in keeping the mouth moist.

The author regards diarrhea as a complication rather than a symptom of typhoid fever. The usual remedies, bismuth subcarbonate and salicylate, or morphine subcutaneously, were used to combat it. In obstinate cases enemas of 10-per-cent. boric

acid solution were effectual in checking the trouble. Intestinal hemorrhage, which occurred in 10 cases, invariably yielded to a mixture of turpentine and tincture of hamamelis,  $\frac{1}{2}$  dr. each, and tincture of digitalis, 3 min. This was given every two hours, while morphine was administered in suppositories at the same time.

The treatment of perforation remains the least satisfactory. Beyond securing rest by means of opium administered freely, but little can be done, medically or surgically.

**PUERPERAL MASTITIS**

Infection is far and away the most frequent cause of puerperal mastitis, and the cracks and fissures in the breast furnish the entrance for micro-organisms. The affection has a tendency to recur with each confinement. Much can be done, states Dr. E. P. Davis,<sup>1</sup> in the line of prophylaxis by measures directed towards wounds, abrasions, or scratches of the breast during pregnancy. All hardening agents should be avoided, while weak ointments of boric acid, bismuth subnitrate, etc., are very efficient. The nipples should be cleansed with a boric-acid solution, and the same agent used to wash the child's mouth before and after nursing. To prevent suppuration, the engorgement of the breast with milk must be relieved by massage, the breast-pump, tight bandaging, or nursing. For very hard breasts, hot applications with massage are recommended. When fever sets in, the application of cold to the breast is often productive of happy results.

Drugs recommended for checking the secretion of milk are unreliable. This purpose is best aimed at by a dry diet and free purgation. When the presence of an abscess is certain an early and free incision is called for.

**THERAPEUTIC VALUE OF RAISINS**

The urine of persons not suffering from fever is frequently found to be extremely acid. The causes are often obscure, and the routine treatment consists in the administration of alkalies, either sodium bicarbonate or the alkaline waters. The results are only too often disappointing. It seems as though the alkalies stimulate gastric hypersecretion, which leads to an increased acidity of the urine.

To obviate this difficulty, Prof. P. Carles<sup>2</sup> proposes to substitute for the alkalies an acid salt, which is changed in the system into an alkaline salt. Such a substance is

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 5.  
*London Lancet*, No. 4066.

<sup>2</sup> *Therap. Gaz.*, XXV, No. 4.

<sup>3</sup> *Rev. de Thérap.*, LXVIII, No. 10.

cream of tartar, for example. In the stomach it rather aids the digestion, being acid; in the blood it becomes alkaline and neutralizes excessive acidity. The difficulty still remained, however, of introducing sufficient quantities of the salt without provoking purgation. This the author met by administering fresh raisins, which contain cream of tartar in a soluble state. About 3 oz. daily, taken with meals, is the average dose. It was shown by analysis that this amount of raisins contains one-half of its weight in sugar, besides  $\frac{1}{2}$  dr. of cream of tartar, and other salts of organic acids. On complete combustion about 12 grn. of potassium carbonate are produced and these will neutralize 15 grn. of uric acid. Clinical experiments have borne out the author's theoretical conclusions.

#### POISONING WITH ANILIN

St. Clair Thomson<sup>1</sup> reports a case in which anilin was used as a local anesthetic. A 10-per-cent. solution in cocaine was ordered by the author in furuncle of the ear. The patient, a physician, inserted a pledget of cotton soaked in the solution into his ear, and repeated this several hours later. Soon he noticed a blue discoloration of the nails, and his wife told him that his face was also blue. When the author saw him, he was intensely cyanotic, and an acute cardiac dilatation was discovered. Both symptoms subsided in the course of a day.

Similar cases of intoxication from shoes dyed with anilin are on record. The remedy, according to the author, should be discarded altogether. [Still, some physicians, especially in Russia, claim good results from anilin by inhalation in tuberculosis.—Ed.]

#### CALOMEL AND STRYCHNINE

The following is the opinion of an eclectic physician, C. E. Boynton,<sup>2</sup> of Sandy, Utah, on these two drugs:

"I regard calomel as by far the most useful drug I have ever used. If calomel does not act when it should, give an injection of glycerin or soap and water. When first called to any fever, give from 3 to 10 grn. of calomel and follow with saline. Ten grains of calomel every morning for three days in typhoid is a good beginning, particularly if it is desirable to make the bill light. Always make it a rule when you prescribe calomel either to give it in large doses once a day or in small doses for a few hours only. Do not prescribe, say, 1 grn. of calomel every hour until the bowels

move, for 20 grn. may be given in this way and salivation result. Small doses of calomel frequently repeated, say  $\frac{1}{10}$  grn. every half hour until ten doses are given, usually succeed in promoting activity of the bowels. When called to an infant with 105° to 106° temperature, in your prognosis give a ray of hope and in your treatment—saying the child is two years old—give 3 or 4 grn. of calomel. It has been my practice never to give acids while giving calomel, but always to give potassium bicarbonate or sodium bicarbonate. In thirteen years of practice, although I have never given more than 10 grn. of calomel [at any one time?], I have never, except in one instance, caused a stomatitis.

"Calomel is the only drug that is more useful than strychnine. Strychnine will enable you to make use, and good use, of veratrine and aconitine in fevers. Strychnine, digitalin, and glonoin are the triple alliance to face up death when vitality runs low. When the pulse lacks sufficient power, then is the time to give  $\frac{1}{20}$  to  $\frac{1}{30}$  grn. of strychnine hypodermically. It is not well to give full doses of strychnine as a routine treatment in fevers, but it should be used as indication demands. To meet collapse, we may give  $\frac{1}{20}$  grn. of strychnine every one or three hours until  $\frac{1}{3}$  grn. has been given within the twenty-four hours."

#### LARGE DOSE OF TURPENTINE

Dr. F. S. Stanwell<sup>1</sup> reports the case of a woman, aged forty-six, who swallowed a half pint of turpentine with suicidal intent. No marked symptoms resulted, so to make the diagnosis certain a stomach tube was passed, the contents evacuated and replaced by milk. Except a slight uneasiness in the epigastrium and the violet odor of the urine, there were no other consequences, either objective or subjective, from the ingestion of this large quantity of turpentine.

#### TREATMENT OF SCARLET-FEVER

Dr. Avirognet<sup>2</sup> states that in the management of scarlet-fever, isolation must be enforced as long as desquamation lasts. The physician and attendants ought to wear a blouse while about the patient, and wash their hands in an antiseptic solution on leaving the sick-room. The patient should be urged to drink water freely, and an absolute milk diet is the best régime for the first two weeks at least. The urine must be examined daily. Hygiene of the skin is all-important. Warm baths daily, with inunctions of anti-

<sup>1</sup> *Deut. med. Woch.*, XXVII, No. 23.

<sup>2</sup> *Wis. Med. Recorder*, June, 1901.

<sup>1</sup> *Brit. Med. Jour.*, No. 2098.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 7.

septic ointments later on, are necessary. Rigorous cleanliness of the nasopharynx and mouth will go far towards preventing complications. If the eruption breaks out sluggishly, a mustard bath will encourage it to a great extent. After the fever has gone down, the patient must not be allowed to leave the bed for a few days longer.

In malignant scarlet-fever speedy and active interference is urgently called for. Hyperthermic conditions are to be treated by hydrotherapy or antipyretic drugs, preferably the first. Great prostration indicates the administration of stimulants; camphorated oil, ether, normal salt solution are useful hypodermically. In heart-weakness and tendency to syncopal attacks, caffeine, sparteine, strychnine, etc., are valuable. In hemorrhagic forms, ergotin or gallic acid may be tried, the latter in the following formula:

Gallic Acid.....	16 grn.
Syrup Orange .....	1 oz.
Distilled Water .....	3 oz.

Teaspoonful every hour.

Although most complications of scarlet-fever are due to the streptococcus, the anti-streptococcic serum is, in the author's opinion, valueless in these conditions.

#### TREATMENT OF SEPSIS—A NEW METHOD

Our present treatment of septic infections is chiefly symptomatic and supportive. The remedies introduced in recent times, as the antistreptococcic serum and nuclein, have not succeeded in revolutionizing the prognosis of pyemia, septicemia, and the allied conditions, which remain as unfavorable as ever. Under such circumstances every contribution is welcome, and Dr. Van Telburg-Hofman's<sup>1</sup> report of cases treated by a new method deserves attention.

The method consists in the "production of an artificial suppuration," as Dr. Fochier, of Lyons, puts it. This is accomplished by the hypodermic injection of oil of turpentine.

The author first tried it in a case of septicemia in a colored woman, aged forty years. Fifteen minims of oil of turpentine were injected into the thigh. The result was striking. Vomiting ceased, tympanitis disappeared, delirium subsided, and the temperature curve changed from an intermittent to a continuous one. After a second similar injection the patient soon recovered. The abscesses at the sites of puncture were evacuated later on and found to contain large quantities of pus. The method was tried in other cases and the results justify its further employment.

The injection itself is not painful, but inflammatory phenomena set in very promptly. The frequency of injections is governed by the severity of the case. More than two are seldom necessary. The exact mode of action of the method is unexplained as yet. While some think the blood is "purified" by the formation of the abscess, which attracts the *materia peccans*, others believe that antitoxins are produced in the abscess and should be credited with the improvement. The author inclines toward the latter view.

#### TREATMENT OF INTESTINAL HEMORRHAGE

Two new methods of controlling intestinal hemorrhage in typhoid fever have been introduced of late—copious hot enemata and the use of calcium chloride. Dr. Albert Mathieu<sup>1</sup> thus outlines his application of these measures:

The patient with intestinal bleeding is completely immobilized, the cold baths are discontinued and replaced by cold packs. Instead of milk, only water is allowed for two to three days. One or two enemas of 1 quart of boiled water (cooled to 118° F.) are given daily under low pressure. To each enema 1 dr. of calcium chloride is added and ½ dr. of the same substance is administered in aqueous solution by mouth. Small doses of opium are given in addition, with a view of insuring peristaltic rest.

The hot enema brings away blood and blood-clots from the intestines, thus effectually preventing all further decomposition and intoxication. The principal benefit, however, rests on the coagulating qualities of calcium chloride. In cases of grave hemorrhage, subcutaneous injections of sodium chloride, possibly with the addition of calcium chloride, are required.

#### CANADIAN HEMP IN CARDIAC DISEASE

According to Dr. L. E. Goloubinine,<sup>2</sup> Canadian hemp (*Apocynum cannabinum*) in doses of 5 drops of the fluid extract three or four times daily, renders good services in grave affections of the heart, even after all other cardiac remedies have failed. Under the influence of Canadian hemp the pulse and respiration become less frequent, the blood-pressure rises, and the arrhythmia diminishes. Besides, diuresis is increased and albuminuria checked.

No untoward effects are noticed beyond slight gastric irritation, which may be avoided by combining with each dose of the fluid extract of Canadian hemp an equal dose of the tincture of Indian hemp (*cannabis Indica*).

<sup>1</sup> *Virginia Med. Semi-Monthly*, v, No. 23.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 6.

<sup>2</sup> *La Sem. méd.*, XXI, No. 8.



# MERCK'S ARCHIVES

## MATERIA MEDICA <sup>OF</sup> DRUG THERAPY

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AUGUST, 1901

A FAD is either an amusing or a dangerous thing. Whichever it is, it invariably warps the judgment of its followers, distorting the proper proportion and relation of things, unduly magnifying the importance of some and minimizing the value of others. If a fad is simply amusing, it might as well be left alone. There is no indication or even justification for pricking the pretty soap-bubbles with which children—some people remain children all their life long—like to amuse themselves; but when a fad is likely to prove harmful, then it becomes the duty of all clear-thinking men to knock it on the head. And we never miss an opportunity of doing so, as our readers well know.

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THAT indiscriminate and ignorant polypharmacy—the jumbling together of a number of ingredients producing chemical, pharmaceutical, and therapeutical incompatibility—is to be condemned in the severest terms, goes without saying; but the anti-polypharmacy movement sometimes goes to extremes and threatens to prove deleterious to the interests of patients. Judicious and enlightened polypharmacy is a boon and a blessing. There are very few remedies in our materia medica whose action cannot be improved or corrected by proper combination with synergetic or corrective agents. Let us take, for example, the compound cathartic pill. This official pill consists of eight distinct ingredients: extract of colocynth, aloes, cardamom, resin of scammony, soap, calomel, extract of jalap, and gamboge. There is but a very small dose of each ingredient; nevertheless we obtain an efficient cathartic, operating practically without any pain or griping, and on the entire alimentary canal. If we

wanted to administer a single ingredient only we would have to use a dose much exceeding the *aggregate* dose of all the ingredients, there would be much griping (in the case of colocynth, gamboge, and scammony), and the effect would be directed only to a portion of the alimentary canal. Thus aloes acts principally on the lower intestine, calomel on the liver, etc. The same is true of our official compound vegetable pill, consisting of ten ingredients. In short, it is a well-known fact that several purgatives, when judiciously combined, will produce the desired effect in a much smaller dose and with less disturbance than could be accomplished with a single ingredient.

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ANOTHER illustration. Antipyrine and acetanilid are reliable and certain antipyretics. Unfortunately they have a depressing action on the heart. Judiciously combined with caffeine or camphor, this depressing action is to a great extent overcome. This is, of course, polypharmacy; but will anybody deny that such polypharmacy is superior to monopharmacy?

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THERE is another curious fact. As there are people who, while priding themselves on their total abstinence, consume proprietary nostrums containing 25 to 60 per cent. of alcohol, so there are physicians who are opposed to polypharmacy theoretically, while practicing it right along. A physician recently criticized as polypharmaceutical a prescription containing codeine, ammonium chloride, and syrups of senega, squill, and wild cherry. "I prescribe simple things for a cough," he said, "a little paregoric with hive syrup, or a little brown mixture." A "little paregoric with hive syrup" consists of ten ingredients; a "little brown mixture" contains seven—or, counting the constituents of the camphorated tincture of opium, twelve—separate ingredients. Not so very monopharmaceutical, is it?

\*\*\*  
It appears to us that one of the problems to engage the attention of the twentieth century therapeutists and pharmacologists will be the action of drugs as influenced by the dosage. This part of pharmacology has been neglected entirely too much. There are hundreds of drugs whose action not only varies under different dosage, but is diametrically different. Ipecac in very small doses allays vomiting; in large doses it excites it. Cocaine in small doses excites the reflexes, in large doses it depresses them. In the case of a number of drugs, it will therefore be insufficient in the future to attach a label: depresso-motor, excito-motor, emetic, etc. The different action in different doses will have to be stated.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

### Treatment of Itching Piles

R. N. A. asks for some good ointment for itching piles; also for the general treatment.

The following ointments will prove efficient for the purpose:

Cocaine Hydrochlorate ..... 8 grn.  
Menthol ..... 20 grn.  
Petrolatum ..... 1 oz.

Apply externally and push up a small quantity into the rectum, after bathing the parts with cold water.

Mild Mercurous Chloride ..... 24 grn.  
Menthol ..... 30 grn.  
Belladonna Ointment ..... 6 dr.

Apply in a manner similar to above.

Where there is great relaxation and protrusion of the rectal mucous membrane and an astringent effect is desired besides the antipruritic one, the following ointment should be used:

Gallic Acid ..... 1 dr.  
Powd. Opium ..... 30 grn.  
Menthol ..... 20 grn.  
Cocaine Hydrochlorate ..... 10 grn.  
Petrolatum ..... 1 oz.

Use as above.

The general treatment is very important. Above all, the patient must not be allowed to become constipated; but care must be taken in the selection of a laxative. Aloes, for instance, must never be given, because it irritates the lower part of the rectal mucous membrane. Calomel in small, repeated doses, solution of citrate of magnesia, and compound licorice powder are permissible. The last-mentioned is a great favorite with most Germans for hemorrhoidal trouble; they even frequently ask for it under the name *Hämorrhoiden Pulver*. Injections into the rectum of cold water, with or without some medication, should form an important part of the treatment, and should be used whenever possible, both before and after each defecation. Used before, these injections soften the feces and prevent straining, which is so injurious in all varieties of piles; used after, they wash away any remnants of fecal matter, which would otherwise be a source of irritation. Some people find more relief from the injection of hot water. As to medicinal agents, the following are very useful: Witch-hazel (distilled), 1 part to 2 or 3 parts of water;

alum, a teaspoonful to a pint of water; the non-alcoholic fluid extract, or glycerite, of hydrastis, 1 oz. to the pint of water; the colorless extract of *pinus canadensis*, 1 oz. to the pint of water.

Heavy, non-digestible food, or one leaving a large residue, should be avoided. While probably no patient would be willing to change his occupation on account of piles, it is well to bear in mind that sitting and standing always tend to aggravate the disorder, while lying down or walking is beneficial. Bearing the above principles in mind, practically every case of uncomplicated itching piles should be cured without having recourse to an operation.

### Formaldehyde in Malignant Tumors

W. F. P. writes: I would like to ask you a few questions regarding formaldehyde. Have you ever known of its being used hypodermically or into the parenchyma of tumors or cancers? Do you consider it safe to use it so, and if so, in what percentage? I have reasoned that if it be such a powerful preservative of tissue in the cadaver, it might be used to prevent the disintegration of tissue in cancer or tumor, and by its hardening process destroy the germs in these diseases.

Formaldehyde is being used in malignant diseases, and several reports have been published. Dr. William Mitchell,<sup>1</sup> of Bradford, England, relates his experience in the use of a 20-per-cent. solution of formaldehyde on a recurring inoperable sarcoma of the cheek. The tumor was fully as large as a man's fist. At one place a mass of sarcomatous tissue had forced its way through the integument and was giving rise to constant and severe hemorrhage and the patient came to get him to check this. Every styptic available was tried and the best only arrested the bleeding for a few hours, so that two or three ounces of blood were lost per day. It seemed as if nothing short of tying the external or common carotid could arrest it. Knowing the penetrating and coagulating power of formaldehyde and the rapidity of its action on dead tissue, he determined to try its effect on the living. A rubber solution was applied to protect the surrounding skin, a small pad of absorbent cotton soaked in 20-per-cent. formaldehyde was applied to the raw surface, and then it was covered with gutta-percha tissue held in place with a bandage. His expectations were more than realized, as not only was the hemorrhage stopped, but in twenty-four hours the tissue was necrosed and hardened inward to nearly a quarter of an inch from the surface. He daily cut away some of this necrosed material with a scalpel and sharp

<sup>1</sup> *Brit. Med. Jour.*, No. 1989, p. 337.

spoon, and filled up the cavity with more formaldehyde-soaked cotton. By repetition he had in a few days tunneled into the heart of the tumor. He cut out a solid piece an inch thick at one time, but usually contented himself with less. The pain is occasionally pretty severe, but it is checked by an analgesic. There has been considerable edema of the lower eyelids and lips, and at one time of the cellular tissue of the neck. Fearing edema glottidis, he suspended treatment for a few days, and found that a line of demarcation formed, exactly as in dry senile gangrene of the extremities. He sums up the points in favor of the method as follows:

(1) It is simple in the extreme, requiring no special apparatus, and can be applied without an anesthetic. (2) It produces no shock. (3) It does not, like electrolysis, set up a diffuse suppurative process, being not only aseptic, but powerfully antiseptic. (4) It is bloodless, and can be applied to very vascular growths, as this case shows. (5) It has very much greater penetrating power, and hence effects a more rapid removal than the usual escharotics, and its application does not like those give rise to a disintegrative or caustic process, with the resulting discharge, but is what might be termed a necropoietic process, with no discharge whatever. (6) As there is no discharge scarcely any dressing material is required. (7) During the paring away of the necrosed parts the limits of such a tumor can be easily seen on the dry clean-cut surfaces, and an indication is thus given as to the direction in which it is necessary to proceed further. The pieces removed can be subjected to microscopic examination for the same purpose. (8) Above all, the process seems to be efficient and safe with proper care.

The drawbacks are: (1) The pain, which is at times pretty severe, but can, of course, be relieved by a local anesthetic; (2) the edema, which is always annoying, and might, if extended to the glottis, be fatal; (3) the systemic absorption of the formaldehyde is apt to, and in this case did, produce an annoying urticaria, but this can be subdued by carbolic-acid lotion.

Dr. J. D. McFeely,<sup>2</sup> of Dublin, reports a case of inoperable epithelioma of the larynx and neck, which he treated with injections of formaldehyde. He preceded the injections by anesthetizing the part with an injection of eucaine. The case, of course, terminated fatally, but he was favorably impressed with the palliative effects obtained from the formaldehyde. His conclusions

are as follows: (1) Up to  $\frac{1}{2}$  dr. of pure formaldehyde (40-per-cent. solut.) can be injected into the body without producing toxic symptoms. (2) Although a powerful styptic, it does not seem so liable as other styptics to produce clotting or embolism. (3) It is probably as safe to use formaldehyde (40-per-cent. solut.) undiluted as diluted with water. (4) When used undiluted it seems to produce an anesthetic effect more quickly. (5) Not only palliative, but curative effects may reasonably be expected to follow its judicious application.

Dr. Walter Scatchard<sup>3</sup> reports a case of lupus of the nose, of four to five years' standing, which was very greatly improved, practically cured, by the use of formaldehyde. He painted the affected parts with a mixture of equal parts of formaldehyde (40-per-cent. solut.) and glycerin. In a fortnight the ulcers had healed entirely, being replaced by smooth cicatrices. In about three weeks some suspicious-looking spots appeared, but quickly healed under a single application of formaldehyde. Orthoform was applied about an hour or so before the painting, and this rendered the application almost painless.

A. Ranelletti also recommends the use of formaldehyde in inoperable cancers and in moist gangrene. The dry eschars formed prevent any absorption of putrid products, and the danger of septicemic infection is thus minimized. A 20-per-cent. solution is the most suitable for this purpose.

#### Treatment of Gleet

G. M. writes: I would be very happy to have your assistance in the following case: Slavonian male, aged thirty, has had slight urethral discharge for four years, following acute gonorrhoea. Urine is normal, except that every urination contains shreds, some half inch long, some very small. Microscope shows no gonococci, but is not very satisfactory as to what it is. He has no pain, sleeps well, eats well, feels well, except that this substance in urine worries him. Have used Saw Palmetto and various other internal remedies, and also various injections (in urethra only) including protargol, as high as 30 grains to the ounce; also washed out bladder with permanganate solution; but nothing has so far effected a cure. Am now using peroxide wash several times a day, and massaging the prostate every third day. If you can suggest some treatment for this case I will be very grateful.

The above appears to be an ordinary case of gleet. The gonorrhoeal threads—the Tripperfäden—are sometimes exceedingly difficult to get rid of. As to the general management of the case, we would call attention to one point, that is frequently lost sight of and which is nevertheless often a

<sup>2</sup> *Brit. Med. Jour.*

<sup>3</sup> *Brit. Med. Jour.*, May 4, 1901.

cause of the gleet discharge. We refer to over-treatment. In a large number of cases the fault will be found to lie in the irritating injections, or irrigations, and we have seen more than one case in which the discharge stopped in a few days after all treatment had been discontinued. Many cases of chronic gonorrhea are certainly over-treated. The writer has not mentioned the use of sounds. The introduction of a steel sound three times a week, for twenty minutes each time, is very frequently efficacious in stopping a gleet discharge. Of injections, the following will prove useful:

Ichthyol ..... 2 dr.  
 Distilled Water ..... 12 oz.  
 Inject three times a day.

The following injection is healing, astringent, and non-irritating:

Bismuth Subnitrate.....2 dr.  
 Bismuth Subgallate.....1 dr.  
 Colorless Hydrastis (non-alcoholic).1 oz.  
 Tinct. Opium .....1 dr.  
 Powd. Acacia .....1½ dr.  
 Water .....to make..4 oz.

Shake well and inject three or four times a day, keeping in each time for about five to ten minutes.

If the urine is very cloudy, or if there is any prostatitis or cystitis, formin in 5-grn. doses, three times a day, dissolved in a tumblerful of water, will prove very beneficial. For clearing up a cystitic urine there is nothing so effective as formin (hexamethylene-tetramme).

#### Bromine in Bromipin

C. T., apothecary to the — State Colony for Epileptics, writes: Will you kindly inform me how to demonstrate the existence of bromine in bromipin. I have tested bromipin by boiling it with an excess of alcoholic solution of KOH, and then removing alcohol by evaporation, diluting the soap formed with water, and testing for bromine with chlorine and the other tests for bromine, but have been unable to get any reaction. I should like to demonstrate to the physicians of the institution the presence of bromine in bromipin, as some of them seem to think that it would be impossible to change bromine into such a mild and pleasant-tasting product as bromipin.

We are not surprised at your failure to obtain any reaction for bromine in bromipin by the method which you pursued. You, of course, know that the methods of testing for certain elements in inorganic and organic compounds differ very materially. You are no doubt aware that we have numerous organic preparations of iron in which the iron can not be demonstrated by any of the tests at our disposal. It is one of the distinguishing characteristics of organic compounds that very frequently an inorganic constituent which they contain can not be demonstrated unless the entire molecule is broken up. Bromipin is a complex organic substance, and the bromine, of

course, cannot be demonstrated by any simple test such as we use for testing inorganic compounds. One conversant with organic analysis, however, would have no difficulty in demonstrating it both qualitatively and quantitatively. One of the simplest methods is as follows:

Take a tube closed at one end (which, of course, must be made of glass that does not melt at even a very high temperature), fill the lower portion of it with freshly burnt lime mixed with bromipin, and then fill the tube to the top with freshly burnt lime. Heat the upper portion of the tube to red heat, and then gradually heat the lower portion, until the entire bromipin is decomposed. Of course, the latter will become carbonized, and the bromine on escaping will be caught by the burnt lime and calcium bromide will be formed. In that compound—that is, in the calcium bromide—the bromine can be easily demonstrated by any of the ordinary tests.

We repeat the fact, known to any one conversant with organic chemistry, that in organic compounds the demonstration of the presence of certain elements is not a simple matter, as it is when we deal with inorganic substances. Take even a simple organic substance like bromo-benzol ( $C_6H_5Br$ ): even in this compound the bromine cannot be demonstrated by the mere addition of chlorine or any other bromine reagent. The molecule must first be decomposed before the presence of the bromine can be demonstrated.

We were greatly surprised to read that the physicians in the "colony" thought "it would be impossible to change bromine into such a mild and pleasant-tasting product as bromipin." It is only utter unfamiliarity with chemistry that could give rise to such a statement. Any one with the most elementary chemical knowledge should know that any element may become so changed or disguised in a compound as to lose utterly its physical properties, such as color, taste, odor, etc. Phosphorus has certainly a very disagreeable and caustic taste, but we are not aware that any one ever complained of its taste when eating yolk of egg; yet, as you know, one of the constituents of yolk of egg is lecithin, which contains phosphorus in organic combination (formula  $C_{44}H_{90}NPO_8$ ). Or, to take even a simple inorganic substance like common salt: nobody would recognize in this the caustic properties of sodium or the suffocating, poisonous, and irritating properties of chlorine. Thousands of similar examples could, of course, be given, but this is unnecessary.

Perhaps a still more satisfactory test for

the physicians at the "colony" would be to give the patients bromipin or iodipin internally. They will have no difficulty after a time in determining the presence of bromine and iodine respectively in the saliva and in the urine. In this connection, we might even mention the fact that iodipin is now used extensively as a diagnostic test of the motor power of the stomach. From the rapidity with which the iodine appears in the saliva we can judge of the time taken by the iodipin to pass the pyloric opening of the stomach, because iodipin does not split up in the stomach, but only on reaching the duodenum.

Perhaps the fact that some of the best-known practitioners and some of the largest clinics in Germany are now using bromipin and iodipin will tend somewhat toward showing the real value of these products.

In conclusion, we would state that bromipin is a true compound of the fatty acids of sesame oil with bromine, containing 10 per cent. of bromine by weight; and we would emphasize the fact that emulsions of bromine made with mucilage of acacia or with any other emulsifying agent are not bromipin. In such an emulsion the irritating properties of bromine remain practically unchanged, except that they are somewhat modified by the demulcent effect of the oil and the mucilage.

#### Treatment of Infantile Thrush

A. N. F. asks for an efficacious treatment for thrush in infants. He has had to deal with rather obstinate cases. He used honey and borax, but with poor results.

Honey and borax is a time-honored remedy, but it is a poor one, nevertheless, because the honey is liable to give rise to fermentation. A solution of borax in glycerin and water is much better. Still more efficacious is a solution of sodium hyposulphite or sodium sulphite, about 30 grn. to 6 dr. of water and 2 dr. of glycerin. This solution applied frequently and thoroughly, on a pledget of cotton, to the entire buccal mucous membrane, rarely—we might say, never—fails to cure a case of thrush or parasitic stomatitis, no matter how severe, provided it is seen early enough. Another method proposed by a German physician is to make a little linen bag, fill it with cotton and boric acid, and add about  $\frac{1}{2}$  grn. of saccharin. This is given to the child to suck, which it does readily on account of the sweetness of the mixture. The boric acid is dissolved slowly and has a constant antiseptic effect on the *oidium albicans*. This method has the advantage of the child's not struggling against it, as it does fre-

quently when attempts are made to cleanse its mouth.

Should a severe case be seen at a period, when ulcerations have formed, the application of silver nitrate, 10 grn. to the ounce, may become necessary. The application is not to be made to the entire mucous membrane, but to each spot separately. Besides this local treatment, the gastro-intestinal canal must be looked after. Small doses of calcined magnesia are generally beneficial.

#### Ingluvin

J. F. A. asks for information regarding ingluvin, its properties, uses, doses, etc.

Ingluvin is a preparation obtained from the gizzards of domestic fowls. It is a yellowish-gray powder, possessing a faint odor and a slightly bitter, not unpleasant, after-taste. It is soluble in water, and in other aqueous or hydro-alcoholic menstrua. Its active principle is said (by the manufacturers of ingluvin) to be glycocholic acid. It is a digestive agent like pepsin or pancreatin; but, unlike pepsin, it is not incompatible with alkalies. Its dose ranges from 5 to 20 grn., though 10 grn. are usually sufficient. While it may be used in all cases where a digestive agent is required, it seems to be particularly beneficial, to judge from reports of many physicians, in *hyperemesis gravidarum*. As is well known, vomiting of pregnancy is sometimes an exceedingly obstinate affection, sometimes even making the premature induction of labor imperative. Any remedy, therefore, that promises good results in that condition is a welcome addition to our therapeutic armamentarium, and ingluvin well deserves a trial.

R. F.—Pental is chemically trimethylethylene, of the chemical formula  $C_5H_{10}$  or  $(CH_3)_2CC_2H_4$ . It is prepared from amylene hydrate and is a colorless, highly inflammable liquid. It was recommended as an anesthetic in dentistry and minor surgery. Dose, 3 to 5 drams, by inhalation.

B. B.—As far as we are aware, gold as a therapeutic agent was first introduced to the notice of the medical profession about the year 1810, by Dr. Chrestein of Montpellier.

T. P. A.—The formula of Eau Sédative de Raspail is now official in the National Formulary, under the title Aqua Sedativa, and is as follows:

Ammonia Water (10%).....	125 Cc.
Spt. Camphor.....	12 Cc.
Sodium Chloride.....	65 Gm.
Water.....to make	1000 Cc.

## Prescriptions

A collection of approved and reliable formulae for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analyzed before being submitted to our readers.

### Gastro-Intestinal Diseases in Children:

Deodor. Tinct. Opium.....	1	drop
Bismuth Subnitrate.....	5	grn.
Chalk Mixture.....	1	dr.
Essence Pepsin.....	10	drops

One such dose every four hours.

Camph. Tinct. Opium.....	3	dr.
Comp. Tinct. Catechu.....	5	dr.
Chalk Mixture.....	1	oz.

One teaspoonful every two hours.

Arom. Sulphuric Acid.....	30	drops
Camph. Tinct. Opium.....	80	min.
Spt. Chloroform.....	48	drops
Syrup Ginger.....to make	3	oz.

One teaspoonful every two hours.

Bismuth Subnitrate.....	1	dr.
Wine Ipecac.....	20	min.
Tinct. Nux Vomica.....	20	min.
Fld. Ext. Hydrastis.....	1½	dr.
Tinct. Hyoscyamus.....	2	dr.
Elixir Lactopeptine.....to make	2	oz.

One-half teaspoonful after each feeding.

Bismuth Subnitrate.....	2	grn.
Salol.....	½	grn.
Arom. Powder.....	½	grn.
Sugar Milk.....	1	grn.

Make into one powder. To be given dry on the tongue every two hours, or after every movement. (For young children.)

Resorcin.....	20 to 24	grn.
Bismuth Subnitrate.....	1	dr.
Glycerin.....	½	oz.
Distilled Water.....to make	2	oz.

Shake. One teaspoonful every three hours.

Bismuth Phosphate (Soluble).....	30 to 60	grn.
Comp. Tinct. Catechu.....	1	dr.
Syrup Orange.....	3	dr.
Distilled Water.....to make	4	fl. oz.

Teaspoonful every half to one hour as needed.

Deodor. Tinct. Opium.....	10	min.
Bismuth Subcarbonate.....	90	grn.
Syrup Ginger.....	6	dr.
Chalk Mixture.....to make	4	oz.

Teaspoonful every two or three hours. (For a child one year old, when stools are acid and green.)

Resorcin Resublimed.....	20	grn.
Bismuth Subnitrate.....	40	grn.
Tinct. Opium.....	5	min.
Water.....to make	2	oz.

Shake. Teaspoonful every two hours.

Tannalbin.....	30	grn.
Powd. Opium.....	1	grn.
Arom. Powder.....	2	grn.
Sugar.....	15	grn.

Divide into twelve powders. One every four to six hours, for child about one year old; double this dose for two-year old child.

### Gastro-Intestinal Diseases (Continued):

Bismuth Subnitrate.....	1	grn.
Zinc Sulphocarbonate.....	¼	grn.
Dover's Powder.....	¼	grn.
Sugar Milk.....	1	grn.

Make into one powder. One such powder every two hours.

Arom. Sulphuric Acid.....	4	drops
Camph. Tinct. Opium.....	4	drops

At one dose.

Tannalbin.....	2	dr.
Brandy.....	2	dr.
Syrup.....	4	dr.
Distilled Water.....to make	3	oz.

One teaspoonful every one or two hours.

Tannalbin.....	1	dr.
Bismuth Subnitrate.....	2	dr.
Simple Syrup.....	6	dr.
Oil Fennel.....	1	drop
Distilled Water.....to make	3	oz.

One teaspoonful every one or two hours.

Calomel.....	1	grn.
Lead Acetate.....	4	grn.
Powd. Opium.....	1	grn.
Bismuth Subnitrate.....	30	grn.
Powd. Sugar.....	10	grn.

Dispense in ten powders. One every half hour or hour.

Calomel.....	2	grn.
Sodium Bicarbonate.....	10	grn.

Divide into 12 powders. One every hour for four doses. (Initial treatment.)

Iodoform.....	2	grn.
Exp. Oil Almond.....	2	oz.

Cool on ice and inject a tablespoonful into rectum. (To relieve tenesmus.)

### Gastro-Intestinal Diseases in Adults:

Bismuth Benzoate.....	40	grn.
Salol.....	24	grn.
Powd. Opium.....	6	grn.

Dispense in eight powders. One every two to four hours, after bowels are freed from irritating material.

Ichthalbin.....	1	dr.
Bismuth Subnitrate.....	2	dr.

For adults dispense in eight powders; for children dispense in sixteen powders. One every three hours, after bowels have been cleared.

Lead Acetate.....	20	grn.
Ext. Opium.....	10	grn.
Resorcin Resubl.....	30	grn.

Put into ten capsules. One every two to four hours.

Salol.....	1	dr.
Sodium Bicarbonate.....	100	grn.
Sodium Benzoate.....	100	grn.
Bismuth Salicylate.....	100	grn.

Dispense in twenty powders. One every four hours, or three times daily. (Chronic.)

Sodium Phosphate.....	5	oz.
Sodium Sulphate.....	1	oz.

Divide into twenty-four powders. One in glass of hot water before each meal.

Calomel.....	10	grn.
Powd. Ext. Opium.....	6	grn.
Powd. Ext. Cascara.....	15	grn.

Make twelve powders. One night and morning.

**Gonorrheal Urethritis:**

Bismuth Subnitrate..... 4 dr.  
 Mucilage Acacia..... 4 dr.  
 Water..... 3 oz.  
 Inject into urethra morning and night. Shake well before using.

Carbolic Acid..... 15 grn.  
 Zinc Sulphate..... 15 grn.  
 Alum..... 15 grn.  
 Water..... 6 oz.

Use a syringe full once daily, at first diluting with two-thirds water and gradually increasing to full strength.

Hydrastine Hydrochlorate.... 8 grn.  
 Zinc Acetate..... 8 grn.  
 Glycerin..... 4 dr.  
 Water..... to make 4 oz.

Inject several times daily.

Mercury Bichloride..... ¼ grn.  
 Solut. Hydrogen Peroxide.... 3 oz.  
 Distilled Water..... 16 oz.

Use as injection.

Ichthyol..... 90 min.  
 Glycerin..... 1 oz.  
 Distilled water.... to make 8 oz.

Inject warm four to six times daily, retaining fluid three minutes.

Zinc Sulphate..... 4 grn.  
 Lead Acetate..... 8 grn.  
 Tinct. Catechu..... 1 dr.  
 Tinct. Opium..... 1 dr.  
 Water..... to make 8 oz.

Inject several times daily.

Ichthargan..... I to 4 grn.  
 Glycerin..... 4 dr.  
 Distilled Water..... to make 8 oz.

Dispense in amber bottle. Inject four to six times daily.

Methylene Blue (Medicinal).... 40 grn.  
 Powd. Nutmeg..... 40 grn.  
 Dionin..... 10 grn.

Make into twenty capsules. One capsule three times daily.

Methylene Blue (Medicinal).... 20 grn.  
 Copaiba..... 2 dr.  
 Oleoresin Cubeb..... 2 dr.  
 Pancreatin..... 1 dr.

Put into twenty-four capsules. Two two hours before meals.

Ichthargan..... 1 grn.  
 Distilled Water..... 6 oz.

Inject three or four times a day.

Ichthyol..... 1 dr.  
 Vaseline..... 7 dr.  
 Lanum..... 1 oz.

Introduce into urethra with salvesyringe or cannulated sound.

Copaiba..... 150 min.  
 Salol..... 150 grn.  
 Pepsin..... 150 grn.  
 Mucilage Acacia..... 1 oz.  
 Cmp. Syr. Sarsaparilla, to make 4 oz.

Teaspoonful three or four times daily.

Thiosinamine..... 15 grn.  
 Milk Sugar..... 1 dr.

Put into sixty capsules. Two daily, morning and afternoon, increasing by one capsule until twelve are being taken daily. Do not take evenings. (For Stricture.)

**Gonorrheal Urethritis (Continued):**

Zinc Permanganate..... 10 grn.  
 Distilled Water..... 12 oz.

Inject several times daily.

Oil Santal..... 2 dr.  
 Copaiba..... 2 dr.  
 Lime Water..... 12 dr.  
 Mucil. Tragacanth B.P. to make 3 oz.

Teaspoonful three or four times daily.

Thiosinamine..... 20 grn.  
 Glycerin..... 100 min.  
 Boiled Distilled Water..... 100 min.

Inject ten to fifteen min. into triceps or gluteus every three days. (For Stricture.)

**Gonorrheal Vaginitis:**

Hydrastine Hydrochlorate.... 15 grn.  
 Water..... to dissolve  
 Wool-fat..... 4 dr.  
 Copaiba..... 1 dr.  
 Petrolatum..... 4 dr.

Saturate absorbent cotton, and pack vagina night and morning after irrigating.

Potassium Permanganate..... 2 oz.  
 Half teaspoonful in two quarts warm water, as vaginal douche morning and night. Then use 10-per-cent. ichthyol-glycerin on tampons.

Powd. Alum..... 8 oz.  
 Powd. Boric Acid..... 8 oz.

Two teaspoonfuls to pint water as douche for children; four teaspoonfuls to quart, for adults. Inject night and morning.

Boric Acid..... 4 oz.  
 Tannic Acid..... 2 oz.

Three teaspoonfuls to quart water, as douche night and morning.

Ichthyol..... 1 dr.  
 Iodoform..... 1 dr.  
 Tannic Acid..... 30 grn.  
 Wool-fat..... 1 dr.

Oil Theobroma.....  
 to make 6 vaginal suppositories  
 Incorporate ichthyol with wool-fat, and mix with cacao butter and iodoform, then incorporate tannic acid. Insert one twice daily after warm douche of boric acid (1 dr. to 1 pt.) or creolin (15 min. to pt.)

Tannic Acid..... 1 oz.  
 Glycerin..... 4 oz.

Heat gently until acid is dissolved. One or two tablespoonfuls to quart of water, as injection morning and night, after previous cleansing injection.

Ichthyol.... 1 oz.  
 Glycerin..... 4 oz.

Use on cotton tampons, once daily or every other day, after thorough irrigating of parts with one-fourth per-cent. creolin solution, used warm.

**To Prevent Loosening of Teeth:**

Tannic Acid..... 2 dr.  
 Tinct. Iodine..... 1 dr.  
 Potassium Iodide..... 15 grn.  
 Tinct. Myrrh..... 20 min.  
 Rose Water..... 6 oz.

A teaspoonful in water, to rinse the mouth, every two hours.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**A Word About Temperance.**—We suppose there is not a physician in the world who on principle is not in favor of temperance. In fact, we could not imagine a physician who would deliberately advocate or defend intemperance, either in eating or in drinking. The thought is preposterous. We venture to say, moreover, that there has never been a period in modern social life when a higher standard existed in the medical profession on this subject than at the present time. Intemperance in habit is certainly and fortunately a very rare vice among medical men to-day, although there are doubtless individual cases which we must all deplore. Neither public nor professional opinion will condone intemperance in physicians. While this is all true, it is equally noteworthy that the medical profession as a whole is not a supporter of total abstinence. We mean by this the total abstinence which is upheld as a moral principle and a principle of public policy—a principle which some of its extreme supporters contend is to be not only advocated, but enforced. The recent action of the American Medical Association on the subject of the Army Canteen has been variously interpreted, and we have received not a few letters on the subject. To those of our correspondents who severely criticize the Association, we must say that we believe the differences of opinion on this subject have to do as much with a question of *method* as of principle. The idea of enforcing temperance by act of Congress is repugnant to many physicians, who may be better friends of true temperance—by which we mean moderation—than are some of their critics. Intemperance in thought and language is just as possible as intemperance in eating and drinking. One of our correspondents has declared that it would be just as proper for the United States Government to maintain prostitutes for the use of the army as to maintain the canteen. We quote that sentiment merely in order to let it display its own hideousness.—*Phila. Med. Jour.*

**Kindness and Courtesy in Hospitals** is of far more significance than is usually supposed. Although written with no prejudice against the medical or nursing professions, the article, "A Day in a Paris Hospital," in the April number of the *Contemporary Review*, brings out a common fault both of physicians and nurses, the ease with which we slip into the rut of doing our work mechanically and as a task we have undertaken, without putting into it the consideration for the patient's feelings, the geniality, the humane quality we feel and show in treating private patients, or in meeting friends in social life. The gentleman is not made by studying medicine, the cold-hearted and the brutal may not unlearn their cruelty even in our work, which certainly, more than others, encourages gentleness and the heeding of others' sensibilities. There is nothing that more certainly generates the much too common hatred of the profession by the ignorant laity than the remembrance by a patient of an injustice, hardness of heart, or coarseness exhibited by physician or nurse. What a horror to the sick when a death is allowed to take place before their eyes. The minds of those who are ill are peculiarly susceptible and also peculiarly alert. A careless gesture, tone of voice or word that reveals the

bad nature is seen and sticks in the memory in all the after years. We in the United States are exceptionally free from the foreigner's haste, harshness, and business-like heartlessness, and yet every good man must have seen things in our hospitals and dispensaries that rankle and hurt both person and profession. Possibly there is as much virtue and healing power in manners as there is in medicine.—*Amer. Med.*

### The Dangers of Too Technical an Education.

—The following comments from the *New York Times*, for July 8th, apply, as it seems to us, with equal force to the subject of medical as to that of electrical education: Earnest opposition is expressed by the *Electrical Review* to the strictly specialized education which produces men with a good knowledge of one branch of applied science, but without information on other subjects and no general culture. It points out, too, that the lauded practicality of the technical schools is in one way a delusion, since the young men graduated from them are by no means capable of entering at once upon the practice of the higher work of their professions, but must devote at least a year, usually at very low wages, to learning over again from actual experience what they have already learned from books, lectures, and such approximations to reality as the school shops provide. In effect, the *Electrical Review* advises the would-be engineer to acquire, as the foundation of his professional career, something very much like a college education. It tells him to learn German and French, in order that he may be able to take in at first hand all that is best in the scientific literature that interests him, and it advises especially a much more extensive study of the higher mathematics than is favored in some of the technical schools. A man who knows a great deal about electricity and nothing about anything else is declared to be not nearly so valuable or so likely to succeed as one who knows half as much about electricity, but has a good general education and the degree of culture that goes with it. "In the United States we need at present," concludes the article, "two kinds of electrical men—skilled and thoroughly trained artisans, and men of high scientific attainments combined with wide general culture. From the first class we may expect practical work of the utmost value, and from the second we may look for discovery and invention, research and calculation, that will form the basis for the labors of ensuing generations of artisans. For the half-educated electrical engineer there is practically no place at all." All this, says the *Times*, is excellent doctrine, not limited in application to electrical engineering, and, coming from the source it does, sufficiently answers the eminent but misguided individuals who have of late been advising young men to learn nothing not directly bearing on the work they intend to do.—*N. Y. Med. Jour.*

**Fashion and the Sun.**—The alarming accounts of deaths from heat in New York—not, we are happy to think, entirely free from the exaggeration that spices most newspaper sensations as served up in America—have naturally aroused fears that this country would receive the heat-wave and furnish victims to an unusually high atmospheric temperature. In countries where great heat is regularly expected at certain seasons life is adjusted to meet the conditions. Business is abandoned in the hot hours; leisure, few clothes, sleep, and appropriate drinks reign in the place of affairs, which are relegated entirely to the



cooler portions of the day. In England, because great heat is so occasional and because we are slow to change our customs, the inconveniences of a high temperature bring no attempt at alleviation. No changes are made in the hours of business and business men prefer to perspire and to fret beneath a silk "topper" and a frock coat, though they would prosper no less and be far more comfortable in flannels and a "straw." The learned professions show no wider sense of what is due to climatic changes. Clergymen, lawyers, and our own profession alike preserve the proprieties and in black coats sweat to their satisfaction. Women alone, whether guided by the instinct with which they are credited or by the reason in which they are commonly thought deficient, show men in this matter how suitably to adapt costume to climate and to remain cool, active, and comfortable, though the sun shine never so fiercely. Do men want to vaunt their superior physique that they make such a contrast between the heavy trammels of their own costume and the easy coolness of that of their wives and daughters? On one side a black coat, top hat, stiff shirt, and black boots; on the other a light bodice, open or with only lacing at the neck, soft cool skirts, open-work stockings, light shoes, and a parasol. No one doubts which looks better; is there any more hesitation in declaring which is healthier and better adapted to activity in a hot atmosphere? We do not suggest that Cornhill should quiver with parasols, or that the Stock Exchange should rustle with the flimsy skirts of hurrying brokers, but why should not light flannels and broad light straw hats be universally adopted in hot weather? Men would be better able to attend to their affairs and, a by no means unimportant point, would need far less to drink, for they would perspire less. Stiff shirts and stiff collars should be put away in hot weather. When they absorb perspiration they become ridiculous and when they preserve their rigidity they are unhygienic.—*London Lancet.*

**Types of Practitioners.**—There are two types of practitioners—the routinist and the rationalist—neither common in the pure form. Into the clutches of the demon routine the majority of us ultimately come. The mind, like the body, falls too readily into the rut of oft-repeated experiences.

One evening in the far northwest, beneath the shadows of the Rocky Mountains, we camped beside a small lake from which diverging in all directions were deep furrows, each one as straight as an arrow, as far as the eye could reach. They were the deep ruts or tracks which countless generations of buffaloes had worn in the prairie as they followed each other to and from the water. In our minds countless, oft-repeated experiences wear similar ruts in which we find it easier to travel, and out of which many of us never dream of straying. Year by year we follow the same plan in practice, give the same drugs, and settle down into routinists of a most commonplace type.

Last year I was called to a town in Pennsylvania, and having to wait until late in the evening for the return train, I insisted, as is my wont, that the medical man should carry on his daily work and allow me to help him if possible. An afternoon round among patients chiefly of the mechanic class showed me a shrewd cheery man who, in twenty years, had gained the confidence and esteem of his patients. Kindly, hopeful words, very sensible directions about diet, and some half-dozen drugs seemed the essential in his practice. In the evening I saw him dispose of a dozen patients at an out-door dispensary rate: the examination was limited to the pulse, the tongue, and

sometimes the throat. The dispensing, which was of the most primitive sort, was done at the table, on which stood four or five tin and paper boxes containing large quantities of calomel, soda, antipyrine, and Dover's powder. Other drugs, he said, were rarely necessary. He never used a stethoscope, he had no microscope or instruments of precision other than the thermometer. In reply to my questions he said "that he rarely had to make an examination. If the patient has fever I send him to bed, if there is edema I ask for the urine. Of course, I make many mistakes and I sometimes get caught, but not oftener than the other fellows, and when I am in serious doubt I ask for a consultation." This was a man of parts, a graduate from a good school, but early in his career he had become very busy, and gaining the confidence of the people and having much confidence in himself he had unconsciously got into a rut, out of which, at forty, only one thing could lift him—a rather prolonged course of additional study.

This is by no means an exaggerated picture of a routinist in general practice. We all have our therapeutic ruts and we all know consultants from whom patients find it very difficult to escape without their favorite prescription, no matter what the malady may be. Men of this stamp gain a certain measure of experience, and if of a practical turn may become experts in mechanical procedures, but to experience in the true sense of the word they never attain. In reality they suffer with the all-prevailing vice of intellectual idleness. It is so much easier to do a penny-in-the-slot sort of practice, in which each symptom is at once met by its appropriate drug than to make a careful examination and really to study the case systematically.—William Osler.

**Medical Nomenclature.**—In any rapidly developing science the question of nomenclature is of far greater importance than appears on the surface. The temptation to coin words is apparently inherent, and he is a rare person who can make a discovery and refrain from designating it by some new word of his own choosing. We are not prepared to say that physicians are greater sinners in this regard than other men of science, but they certainly are not exempt from the prevailing weakness. Unquestionably the word-making tendency should be combated at every turn, either by inducing the pioneers of research to adopt as far as possible words already in existence and of recognized meaning, or if this be beyond the power of public opinion to accomplish, to refrain from using such newly coined words. Many a name, no doubt, has quietly sunk into oblivion, because it has not been taken up and perpetuated by workers in the same field. Others have survived and proved useful, and these, with some exceptions, have been really needed.

An almost equally pernicious tendency is the attempt to eradicate words and terms long in use and generally understood by others, perhaps of more logical construction, but wholly new. The attempt to revise the nomenclature of the blood and of the central nervous system are cases in point. This leads to hopeless confusion, and stands directly in the way of the natural evolution of language.

Another habit against which a warning note should from time to time be raised, is the misuse of scientific terms commonly employed, or the unnecessary use of more than one word, when one should give the full meaning. A very common example of the first error is the use of the word "pathology" when "pathological anatomy" is meant, an error which is to be found in the cata-

logues of a large proportion of our best medical schools. Pathology is a comprehensive term and pathological anatomy is a limited one—a fact which few who use these terms recognize. A very recent tautology, brought about partly we suspect by the publishers of books and partly by a desire to render apparent the practical application of scientific methods, is exemplified by such a title as "Clinical Pathology of the Blood." If the pathology of the blood is under consideration, the word "clinical" is entirely superfluous; if the pathological anatomy of the blood is being discussed, the addition of "clinical" is meaningless. "Pathology of the Blood" is quite sufficient to convey the full idea of the subject-matter of such books. Physicians are rather proverbially careless in their use of language and publishers are indifferent, provided only their publications will sell.

Between the two many things are printed which it would be well to have suppressed, for the future good of our already involved and inaccurate nomenclature.—*Boston Med. and Surg. Jour.*

**Success in Sexual Therapeutics.**—Probably no one class of cases so frequently and so generously contributes to fill the coffers of the irregulars whom the regular profession vainly essays to circumvent by legal enactment, as that of sexual weakness or decline of sexual power. Seminal emissions of the nocturnal variety are held up to weak and erring youth and adolescence as the forerunner of impotence and mental blight. Not alone are word pictures of the victims given, but wood-cuts, fearfully and wonderfully made, depict the awful state reached by those who have failed to embrace the means offered at the repair shop of the cure-all.

Regarding this matter of nocturnal seminal emissions the regular profession, it seems to me, has erred in its treatment of these subjects. In general the tendency of advice has been that such losses amount to very little and, therefore, are to be largely ignored. This bit of advice is not true and it has served to send patients in droves to irregulars and montebanks. The truth is that the material loss of semen amounts to very little, but the effect on the nervous system and the mental inquietude amounts to a great deal, and they always call for and deserve the attention which means relief without injury. It has long been a common report coming from the regular counsellor that losses are of no concern unless very frequent, and marriage or hard work would be all that was needed. Hard work meant the exhausting of the physical body so that the work of repair would keep mother Nature too busy to permit of wastes, while marriage presumably would change the nature of the loss. This advice is faulty because in neither case is there a correction of the cause of the trouble. Hard work can't continue always, and the peace bought at the price of exhaustion puts a ban upon pleasure since its time never comes. Correcting seminal losses by marriage offers a parentage of weakness and from it a nation of weaklings must come. In addition, the union of sexual misfits keeps the divorce courts busy.

After all it is not the major operations and conduct of long-drawn out cases like typhoid fever that most concern the welfare of the race. For example, how often has as simple a matter as a case of chordee taxed one's patience and skill to direct easily. Modern methods have discarded the gatling-gun means and now he who has become acquainted with the good points of black willow

in suitable combination looks upon chordee as a mere passing epoch in a disease that has hardly enough such attributes to make it feared as it ought to be. I well remember how more than twenty-five years ago a Hebrew of most impulsive nature contracted a case of gonorrhea with strong chordeic attachment. His medical advisor gave him enough bromide to cure an asylum of epileptics, and yet night after night an urgent appeal was made for help. Nowadays such a case could only miss sleep from ignorance of the doctor or failure of the patient to take a few pills or tablets. It is of just such trifles as this and these that the monument of success is made.

Possibly one of the main reasons why failure has met so many attempts to correct the shortcomings of below par sexuals is that the treatment has been too much of a routine nature. Cases of sexual weakness vary most astonishingly. One individual can stand almost an unlimited amount of abuse, both natural and unnatural, while another shows early evidences of the shock which means mental inquietude and physical decrepitude. One case may need a long course of alterative- tonic treatment, while another needs a sedative course with all brakes on. During the course of some years of study and a little writing on this subject, I have been appealed to by dozens of physicians all over the country asking for a formula. This shows a lack of appreciation of the work in hand. Given a case of aggravated nocturnal losses. To simply stop the losses is neither curative nor effective. Losses mean something. They are a result of a cause, and until the cause is made out cure is far off.

A very large number of medical men see in the varicocele which accompanies more than 95 per cent. of these cases an indication for operative interference. To my mind the operations are largely unnecessary and the results rarely such as to offer encouraging hope. Destruction of the enlarged veins has absolutely nothing to do with the weakness. The weakness is not always in the fabricating power of the testicle so much as it is in the storing of the semen. As might be expected, the ability to rival the ram, billy-goat or jackass is not perpetuated long in the subjects of varicocele, but the procreative power lasts long in these subjects when excesses are not allowed to occur. Very few cases of varicocele need more than a cold local bath and occasionally a suspensory. The theory that enlarged veins interfere with the active secretion of semen is not borne out by observation nor by theory, since blood reaches the parts by the arteries, and it is only in the removal of a superabundance of blood that stagnation occurs. The fact that eight men of ten met have more or less varicocele is proof enough that it is not a disease for the operative mono-maniac to get out his instruments over.

The rapid increase of cases of men in middle and beyond the middle of life who have perpetually defective water-works shows that sexual disorders do not recover alone or by the head-in-the-sand theory of marriage. So long as sexual riot is being run a reckoning is due, and when these cases are treated as other weaknesses are met, the regular profession will have less reason to watch legislatures for fear the bars will be let down to the goats.

Nature's recuperative powers are most wonderful and in no way is this fact more forcibly shown than in the recovery that so often occurs in cases where the most terrific abuse has been indulged in. Given youth or the earlier years of manhood, a fair constitution, a willingness to follow directions, including a reasonably abstemi-

ous life and helpful treatment, and not one case in a hundred of sexual weakness should fail of restoration to a degree of power commensurate with a happy domestic life and an age of comfort. Nor to accomplish this is there necessity of any mysterious formulæ or wonderful combination of rare drugs. Indications met, corrections made and a clear conception of what the needs are, and the work is half done. Too often the patient is weaker in mind than in body, and then anything short of actual accomplishment falls under the ban. In no other branch or division of medical practice is there greater call for the giving of remedies with care and with brains.—J. A. De Armand, M.D., in *Wis. Med. Recorder*.

**Sentiment and Fact** as guides of opinion and legislation are illustrated in the unfortunate controversy over the canteen question. One writes that "the sale of liquor and the regulation of vice are crimes against God and man." But it is plain that all such statements beg the question, and that if we govern our minds and conduct by such methods of reasoning we cannot govern them by the scientific method of dependence upon facts. At the recent meeting of the American Medical Association a competent observer brought out the truth of the interdependence of morals and disease in a way to throw a new light upon the canteen controversy. He said that statistics had shown in some posts that there had been twice as many cases of venereal disease since the canteen had been done away with, as compared with the records made during the existence of the canteen. It is not yet definitely settled that this is generally true at all army posts, and what we need is scientifically prepared statistics. These we are in the way of having, the Secretary of War having commanded them to be made by post commanders. Until these reports have been made public we have only sentiment and dogmatism upon which to base judgment, and these are certain to lead us astray. Let us wait for the facts.—*Amer. Med.*

**The Death Penalty Without Pain.**—So long as the law of "a life for a life" is accepted by civilized nations, the grim question as to the most humane method of putting that law in force is one which is bound to come up for discussion from time to time. In New York State the electrical process is resorted to, while in some other States the old method of hanging by the neck has been sufficiently modified to insure the instantaneous death of the culprit. There are foreign countries in which the death penalty is enforced in a far more ghastly manner. It has been reserved for the Japanese to suggest another system, which seems to be effective and at the same time free from the reproach of inhumanity. The condemned person is shut up in a lethal chamber, and by means of powerful pumps the air is rapidly withdrawn from it, and death at once ensues. Experiments upon animals point to the conclusion that this method is quite painless.—*Inter-State Med. Jour.*

**Nephritis in Women.**—It is an established fact that women with chronic nephritis are not taken with convulsions; at least, eclampsia in such parturients is a great rarity. All this surely entitles us to say: albumin or no albumin in the urine, it does not matter whether there is or not: a woman will not be seized with eclampsia if her urine flows freely. Certainly the constant presence of albumin and casts in the urine, and the

appearance of edematous swelling of the limbs, is an indication that the kidneys are damaged; such kidneys may at the critical time, cease to work much easier than healthy ones. But the simple fact that a gravida has albuminuria, does not mean that she will have eclampsia, just as little as it is certain that a woman who has no albuminuria is safe from convulsions.

It becomes therefore necessary to see that the urine be secreted freely during pregnancy; especially toward the end of the term a careful watch should be kept, every change noted, and such steps undertaken as will produce a free secretion of the kidneys. It is but natural from what has been said before, that pregnant women with albuminuria, etc., need doubly careful watching. In cases of unsuccessful attempts at producing free urination, and in cases of tedious labor, other means must be employed besides, which tend to relieve the body of noxious agents through the skin and bowels.—Henry J. Kreutzmann, M.D., in *Occidental Med. Times*.

#### **Don'ts in Connection with Heart Disease.**

Don't feel called upon to give digitalis as soon as you hear a murmur over the heart. Study and treat the patient, not the murmur.

Don't conclude that every murmur means disease of the heart.

Don't forget that the pulse and general appearance of the patient often tell more than auscultation.

Don't neglect to note the character of the pulse when you feel it. Possibly you may look at the tongue to satisfy the patient; feel the pulse to instruct yourself.

Don't think that every systolic murmur at the apex indicates mitral regurgitation; every systolic murmur at the aortic interspace, aortic stenosis. The former may be trivial; the latter may be due to atheroma of the arch of the aorta.

Don't say that every sudden death is due to heart disease.

Don't forget that the most serious diseases of the heart may occasion no murmur. A bad muscle is worse than a leaky valve.

Don't examine the heart through heavy clothing.

Don't give positive opinions after one examination.—*Phila. Med. Jour.*

#### **Raising the Standards in Medical Colleges.**

Wholesale denunciation of medical schools because they turn out so many imperfectly equipped graduates is rapidly becoming unjust, since so many schools are making positively heroic exertions to elevate the standards. We shall have to learn to discriminate carefully hereafter and place the blame where it belongs. There are a number of faculties which have entered upon a systematic course of exclusion of the less fit which for many years almost means ruin for the institution and certainly does mean positive hardship for the teaching body. One instance has come to our notice in which this ruling would surely reduce the annual income from tuitions, etc., by at least \$25,000, and to that extent creating a deficit; and yet the vote was passed, and the refused applicants of course at once went to the rival schools with lower standards. The greatest need in medical education is to-day an extension of this spirit to all the schools. The overcrowding would not be so harmful as it is if it were an overcrowding by competent men.—*Amer. Med.*

## Correspondence

### Is It an Axiom?

#### MERCK'S ARCHIVES:

"What will make a well man sick, will make a sick man sicker." The truth of this is questioned by many very sensible physicians. So thoughtful a man as the leading editor of the ARCHIVES has concluded that the proposition is untenable. In the July number of the ARCHIVES he discussed the question with much ability and perfect fairness. Few persons can read that strong editorial and not agree with the conclusions of its writer.

Like myself, the ARCHIVES editor is not polemically ambitious, and is not tethered by partisan prejudice. He is simply after the truth, and in his strength can easily afford to despise that pettiness which will not tolerate difference.

There is a phase of the question the doctor did not discuss. Perhaps it did not occur to him at the time, or he may have intended to treat it later on. It depends upon the difference between the particular and the general, and has its incidence in the portmanteau word, "what." The proposition the doctor did discuss is this: The particular thing that will make a well man sick, will make a sick man sicker. This premise fully justifies his conclusion. Particularity is included in "what," but its elemental importance in this connection, is secondary or less.

Now what *will* make a well man sick and a sick man sicker? Thousands of things. Many things in their respective environments will do it; any excess will do it, but more particularly, *the ingestion of the wrong substance will do it.* Note that there are many wrong substances besides the unindicated drug, and this fact knocks out the medical nihilist. Too much of anything constitutes the sickening equivalent of "the wrong substance."

The most zealous medical sceptic will admit the curative power of suggestion. He must also admit that wrong suggestion (enough of it) will make a well man sick or a sick man sicker, just as surely as unindicated quinine will do the same. Now, what is his logical reason for advocating the retention of suggestion but the abolition of quinine? Will he maintain that quinine is foreign to living tissue, and that supraphysical agencies are not? If so, I would remind him that man is a cosmic epitome and therefore directly related to the basic elements of the entire universe. There is no tenable ground for the drug nihilist to stand upon. The fundamental principles of general philosophy, together with the experiences of all the past, directly contradict him. There is no more absolute fact under the sun than that the *right* drug is curative. The abuse of any healing agency will do harm, and this fact constitutes the essence of the proposition under discussion. In its general significance, it is an axiom, and it does not rule out the use of drugs.

W. C. COOPER, M. D.,  
Cleveland, O.

### Ivy Poisoning

#### MERCK'S ARCHIVES:

I notice in the current number of the ARCHIVES that J. B. H. asks for a more effective and quicker treatment than he has been in the habit of using. A leaf out of my recent experience may be of some assistance to him. I was called not

long ago to a young lady suffering from ivy poisoning, and as she had been repeatedly poisoned before, with a history of weeks of suffering. I determined to cut it short if possible. Having seen the good results of the use of ichthyol in many forms of skin inflammatory diseases, I gave a strong solution (about 50 per cent.) of it, and had the face kept wet continually, with the result that in two days the acute stage had passed, the swelling had nearly all gone, and a degree of comfort followed that she had never known before. I have never found anything before which acted so well and so promptly.

H. A. CARRINGTON, M.D.,  
Bristol, Conn.

### Suprarenal in Hemorrhoids

#### MERCK'S ARCHIVES:

Having noted with what promptness capillary hemorrhage was checked by the powdered extract of suprarenal capsule, and how quickly the mucous membrane of the nose was blanched, the thought occurred to me to use this extract in internal hemorrhoids. I have therefore used it in three cases within the past four months, with entire satisfaction. Two of the cases were so troublesome by constant protrusion, that operation was considered imperative. The formula I have used has been the following, injecting it twice a day, after evacuating the bowels:

Ext. Suprarenal Capsule.....gr. ii  
Aqua ..... 3i

This is made up fresh each time, by having the powders in 2-grn. doses.

S. AMERICAN, M.D.,  
1244 Mission street, San Francisco, Cal.

### Treatment of Palmar Eczema (Tetter)

#### MERCK'S ARCHIVES:

Wash hands thoroughly with hot water and soap. Dry. Apply for fifteen minutes hydrogen peroxide. Dry lightly. Apply ichthyol pure, rubbing in all that will be absorbed, leaving stiff coat on entire surface; cover ichthyol with protargol, making a thorough coat. Protect hands with bandage. Two treatments a week. You will be surprised at the short time you will have to treat your patient.

JOHN W. HYATT,  
Bellevue, Tex.

#### MERCK'S ARCHIVES:

I have used thiocol in five cases of pulmonary tuberculosis, with splendid results in all but one, which was of the acute type. The four cases benefited commenced to gain in flesh at once, night-sweats stopped, and appetite improved. Thiocol is a splendid remedy for consumption, and I do not expect to be without it. I have gotten better results from it than from anything I have ever used. It is also effective in enlarged glands due to tuberculosis.

GEORGE R. BLICKENSDECKER, M.D.,  
Houston, Mo.

#### MERCK'S ARCHIVES:

For some years I have been using ichthyol, with results that were surprising to me and my patient. I gave it largely diluted with water and in increasing dosage up to 1½ dr. in twenty-four hours. Some of my patients, while taking the smaller doses uncomplainingly, remonstrated when it came to the big ones.

J. MORILL, M.D.,  
792 Third street, Milwaukee, Wis.

## Book Reviews

It is now more than half a century since one of the greatest blessings was granted to suffering and ailing humanity. We refer to anesthesia. Still, there are many points in connection with the subject not fully settled, and the question as to which is the best and safest anesthetic, the best method of administration, the best means of preventing dangerous or disagreeable sequelæ, is continuing to agitate the medical profession, and the discussions are as animated as ever before. In fact, the importance of the subject is becoming more evident, and some physicians are now advocating the adoption of the administration of anesthetics as a specialty. We think this idea a good one. *ANESTHETICS AND THEIR ADMINISTRATION*, by Frederic W. Hewitt, M.A., M.D., a book of over 500 pages, treats of the subject in all its various aspects, and should be in the hands of every one who is frequently called upon to administer an anesthetic. This, the second edition, has been revised and enlarged, and contains more illustrations. (Macmillan & Co., New York. Cloth. Price, \$4.)

*TRAITÉ MÉDICO-CHIRURGICAL DE GYNÉCOLOGIE*, par F. Labadie-Lagrave, médecin de la Charité, et Legueu, professeur agrégé à la Faculté de Médecine de Paris, chirurgien des Hôpitaux. We have before us the second edition of Labadie-Lagrave's most excellent text-book on gynecology. Though but three years have elapsed since the appearance of the first edition, the authors have nevertheless thoroughly revised and enlarged the volume, while several chapters have been entirely rewritten. It is in our opinion one of the best text-books on gynecology extant, and in its 1,200 pages there will be found everything on the subject worth knowing. The language is so plain and clear that even those having but an elementary knowledge of the French language will have no difficulty in understanding it. (2e édition revue et augmentée, avec 323 gravures dans le texte. 1 fort vol. 1,258 p., 8°, cart. à l'angl. 25 fr. Paris, Félix Acan, éditeur.)

*ABEL'S TASCHENBUCH FÜR DEN BAKTERIOLOGISCHEN PRAKTIKANTEN*, which is now appearing in its sixth edition, has been a favorite with medical students and others engaged in bacteriology for many years. It gives in a concise and condensed form the various methods for preparing culture media, staining solutions, methods of differentiating the various cocci and bacilli, etc. It is interleaved with blank pages for making notes. (Cloth, 2 marks.)

The Cosmetic and Therapeutic Value of Soaps (*DIE KOSMETISCHE UND THERAPEUTISCHE BEDEUTUNG DER SEIFE*) forms the sixth one in Dr. Jessner's series of dermatological addresses for practitioners. Therein the value of soaps in health and disease, their indication and contra-indication, is fully discussed.

The eighth fasciculus of the first volume of the *WÜRZBURGER ABHANDLUNGEN AUS DEM GESAMT-GEBIET DER PRAKTISCHEN MEDIZIN* treats of immunity and immunization. It is a well-written pamphlet of about twenty pages, and is from the pen of Dr. A. Dieudonné. The ninth fasciculus, by Dr. Spiegelberg, treats of diseases of the mouth and teeth in children. (The above three works are from Stuber's Verlag, Würzburg.)

## Publications Received

- Massachusetts General Hospital, Eighty-seventh Annual Report.  
 Sarcoma of the Testicle. By James Pedersen, M.D. Reprinted from "The Post Graduate," August, 1900.  
 A Clinical Analysis of Digitalis and Its Preparations. By Leon L. Solomon, A.B., M.D. Reprinted from the "New York Medical Journal," February 9, 1901.  
 Recent Advances in Dermatology Which Are of Service to the General Practitioner. By L. Duncan Bulkley, A.M., M.D. Reprinted from the "Journal American Medical Association," March 30, 1901.  
 Affections of the Eye and Its Appendages in Bright's Disease. By William Cheatham. Reprinted from the "American Practitioner and News," March 15, 1901.  
 Nephrorrhaphy. By Charles P. Noble, M.D.  
 Proctorrhaphy: The Suspension of the Rectum for the Cure of Intractable Prolapse and Inversion of that Organ. By Charles P. Noble, M.D. Reprinted from "The American Gynecological and Obstetrical Journal," December, 1900.  
 Über chirurgische Eingriffe bei Blinddarmverwundung. By Prof. J. A. Rosenberger. Heft 7, Würzburger Abhandlungen aus dem Gesamtgebiet der praktischen Medizin.  
 The Study of Children. By Arthur MacDonald. Reprinted from "Everybody's Magazine," June, 1901.  
 Syphilis Tertiaire du Nez Chez une Jeune fille. By Drs. Marcel Natier and Abbé Rousselot.  
 Denver College of Medicine, Twenty-first Annual Report.  
 Willis Eye Hospital, Philadelphia, Reports for 1900.  
 Eclectic Medical College of City of New York, Announcement and Catalogue for session of 1901-1902.  
 Cornell University Medical College in New York, Announcement for 1901-1902.  
 Surgical Treatment of Palatal Defects. By Truman W. Brophy, M.D., D.D.S., LL.D. Reprinted from "Dental Cosmos," April, 1901.  
 Primary Chancere of the Septum of the Nose. By W. Freudenthal, M.D. Reprinted from the "New York Medical Journal," March, 1901.  
 Treatment of Laryngeal Tuberculosis at the Montefiore Home for Chronic Invalids. By W. Freudenthal, M.D. Reprinted from the "Journal American Medical Association," March, 1901.  
 Bulletin of the Mount Hope Retreat Laboratory, 1900. By Dr. Richardson.  
 Study of Man. By Arthur MacDonald. Reprinted from "American Journal of Sociology."  
 Cysts of the External Auditory Canal—Report of a Case. By Lewis S. Somers. Reprinted from the "Annals of Otolaryngology, Rhinology, and Laryngology," Feb., 1900.  
 Zur Anatomie und Klinik der Narbengeschwulste. Von Dr. Leopold Freund.  
 Pharyngeal Adenoids and Hypertrophied Tonsils. By J. H. Woodward, B.S., M.D. Reprinted from the "Medical News," Feb., 1901.  
 Ursachen der Karbolgangrän. Von Dr. Franz Rosenberger.  
 Life and Its Association with Matter: Matter Not Vital, but Absolutely Chemical. By E. C. Hebbard, M.D.  
 Treatment of Prostatic Hypertrophy. By Parker Syms, M.D.  
 A Case of Gastric Carcinoma Treated Successfully with Platinic Chloride. By John Murray, M.D.

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

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### Substitution

ACCORDING to the "Proceedings of the New York State Pharmaceutical Association for 1900" (p. 96), over 40 per cent. of the samples of creosote collected on orders for "Beechwood Creosote," or "Creosote U. S. P.," from druggists in various parts of the state by the Committee on Adulterations of that association, when examined turned out to be coal-tar creosote. The cheaper article had been substituted for the dearer one. Since *coal-tar creosote is distinctly poisonous*, while *beechwood creosote is comparatively harmless*, the supplying of the coal-tar substitute when the milder acting beechwood article was specified, showed a most alarming condition of affairs. The distinct intent of the prescriber was ignored or misinterpreted and the decree of the Pharmacopœia unheeded. The only available excuse these substituting druggists can offer is that both of the products bear the common name of "creosote"; they are not at all alike, however, in composition. The chief constituent of beechwood creosote is guaiacol, while that of coal-tar creosote is a poisonous homologue of carbolic acid. The two products look alike, and they have kindred antiseptic properties. When Runge isolated the coal-tar article he supposed it was the same as the beechwood one described by Reichenbach a few years before. This induced him to give it the same name; and, unfortunately, both articles have borne this name in commerce ever since. The Pharmacopœia, however,

recognizes and mentions only the *beechwood creosote*.

A prominent Missouri pharmacist, at a recent pharmaceutical convention in that state, declared that he considered it very wrong for manufacturers to continue labeling these two different articles by the common name of "creosote," and added: "I do not doubt but what the coal-tar creosote is often dispensed for the beechwood creosote. The average person would not notice the difference, and might kill the patient." (In order to avoid this very danger, Merck & Co. have for years placed on every creosote label of theirs the statement that "beechwood creosote is comparatively harmless, while coal-tar creosote is *distinctly poisonous*; substitution of coal-tar creosote for beechwood creosote may, therefore, cause the gravest consequences.")

That some of the substituting found by the committee named must have been wilful can scarcely permit of a doubt; and that there is, therefore, good reason for commending increased vigilance on the part of prescribers is certain. Reports have been current from time to time of late, in both the medical and pharmaceutical press, showing that other articles besides creosote are subject to substitution of the most wilful character. Pharmacists are not all saints any more than physicians are. The medical profession is pestered with its quacks, and the pharmaceutical with its substitutors. The honest men in the ranks of both profes-

sions deplore the fact. In every large body of men there are sure to be some of shady character. That the majority of pharmacists deplore the presence in their ranks of these "black sheep" is quite clear from a recent statement of the Committee on Trade Interests of the Illinois Pharmaceutical Association. This committee declared that "every consideration that can appeal to a sensible, self-respecting business man, warns him against a policy so utterly and inexcusably bad (as substitution). Wherever practiced, it has wrought its meed of injury to the helpless sick, it has left its stain upon the character of those who for temporary advantage have proven themselves faithless to the principles of a noble calling; and now the bitter fruits of this wrong-doing are being reaped by those who are endeavoring with might and main to make the condition of their fellow-craftsmen more satisfactory.

The very suspicion that substitution may be practiced on his prescriptions is apt to keep a conscientious physician in an exceedingly uncomfortable frame of mind. He feels that the life of his patient depends upon the great care he takes in making his diagnosis and in selecting his remedies. To be brought face to face with the possibility that by the tampering with his prescriptions all his efforts will be wasted and his own reputation as a reliable medical man jeopardized, is far from pleasant. But how is he to avoid such tampering? To become his own druggist in a country place where necessity makes it imperative, is unavoidable. To revert to such a primitive state in a city, is to array oneself against the conditions that work for progress without improving the patient's chances. It is choosing the greater of two evils. To advise that his prescriptions be taken to some druggist in whom he can rely, is perhaps advisable in some cases, but it also means to lay himself open to the charge of receiving a commission from such druggist. Let a rumor of this kind once get started, and it will injure both physician and druggist to a degree that will prove irreparable. The safest and best course seems to be to permit the patient to choose his own pharmacist from the ones in good repute. Where patients persist in taking prescriptions to a pharmacy to which their physi-

cians object, it may be necessary to tell them that they do so at their own risk. In order to do this with safety it is necessary for the physician to have in his possession positive legal proof that the pharmacist has actually substituted. Merely to infer that such wrong-doing exists is not enough. In pursuing even the most conservative course, where only a suspicion exists, it is well to bear in mind the probability that the inference may be a mistaken one, and that some innocent pharmacist suffers therefrom. Where there is only a suspicion, the proper course is to avoid acting against the interests of the pharmacist; to go to him and frankly ask for an explanation of the circumstances that aroused the suspicion. If the explanation intensifies the doubt, a test should be made that would admit of no dispute. To act upon evidence of any less convincing character, is dangerous to the physician from a legal standpoint, besides being wrong to the pharmacist, if innocent. To some men trifles light as air are food for suspicion. In all such cases justice to others and common prudence in behalf of oneself should demand caution. Unless the evidence fixes the act of substitution very emphatically, no antagonistic action should be resorted to; but when once the legal proof is obtained, it becomes the physician's duty to his patient and to his own reputation to ask that no more of his prescriptions go to the store where substitution is practiced. But this is not all that should be done: the physician should warn his fellow-practitioners of what he has discovered, always taking pains to give them facts and to let them draw their own conclusions therefrom.

The fact that substitution is practiced among druggists having been proved and published by such eminent authority as referred to, it behooves the physician to take cognizance of the matter and adopt such measures as he may think likely to insure his prescriptions being filled correctly. To do this without giving offense to the conscientious pharmacist is a delicate matter; but it would seem that a physician should make his attitude on substituting so clearly known that it will have an influence behind any prescription-counter where it may be needed.



[Written for Mearck's Archives]

**TREATMENT OF CONSUMPTION AT HOME**

By J. H. Jackson, A.M., M.D.,

Professor of Theory and Practice, College of Physicians and Surgeons, Boston, Mass.

CONSUMPTION is everywhere. It is most common where men congregate most. Its victims are oftener the poor and unfortunate than the rich. The rich can, by change of climate and by making their surroundings favorable, escape it altogether or prolong life indefinitely. Private charity and organized benevolence, though at present very active, are not able to meet the needs of the victims of this disease. The state and municipal authorities will not now meet the difficulties because they do not understand the necessities of the case; they are influenced by motives of mistaken economy and by a desire, for political reasons, to retain influence among those who pay the taxes and cast the votes.

If the means of the poor allow only the bare cost of a journey and a meager living; if the patient is satisfied with less comfort than at home, still he must be content with loneliness and lack of proper medical oversight, and he will certainly have chronic nostalgia if he goes forth alone. Such conditions will in many cases undo what change of climate might otherwise effect.

If the patient lives in the country, away from a dense population with its sources of contamination and its excitements, especially if he lives near the crest of a high hill where pure air can be breathed, he starts with a great advantage over his city brother when both by poverty are obliged to forego change of climate. The same line of treatment will inevitably do more for the country man if proper nourishment, medical attendance, and nursing can be had. But considering all the circumstances in poor families, the chances of recovery in the two cases are about equal. In the city, medical attendance, nursing, and proper foods are available, while they are not so easily procured in the country—except, perhaps, good milk.

We are supposing that both must remain at home. Let us add to the list the man who might go away, but who prefers to stay rather than go without home comforts. What can we do for them?

There are many things which may be done if the patient has a little money. First, by way of prophylaxis, we should teach thoroughly the contagiousness of the disease, and the methods by which it is conveyed into the system. We should instruct them not to expectorate on floors, sidewalks, bed, and other clothing, on account of the danger from germs in the dust

of the dried sputum; insist that all expectoration should be into some receptacle containing bichloride or other disinfectant in strong solution, which should be finally destroyed by fire or heat.

By some recent, very reliable experiments with mirrors, it has been shown that the bacillus tuberculosis is found in the moisture of the breath, and one careful observer claims that it may float in the air for a few hours.

The floors should be carefully washed with strong, hot, bichloride water, and, lest the air be a source of danger, bichloride should be burned with sulphur so that the combined fumes may destroy the floating germs; or formaldehyde may be used. The patient should wear no beard, should kiss no one, not even a member of his own family. The writer recalls several large families in which a number of deaths may be traced to the fatal kiss of a consumptive member. Tuberculous mothers should not nurse their children, since their milk may contain the germ. It is certain that many infants have become diseased through poisoning from maternal milk. One notable example of *escape* from such a fate is remembered by the writer. Mrs. B. was tuberculous at conception and almost dead at the child's birth. The mother was, of course, not allowed to nurse the child, and a nurse took care of it. The mother died three weeks after confinement of undoubted tuberculosis. The father died three months later of the same disease, contracted through sleeping with his wife. He did not belong to a tuberculous family. The child is now thirteen years old and in perfect health, having had less sickness than the average child.

The minutest details of prevention should be taught and enforced, not only for the safety of others, but also for the patient's own safety; since when the germs have completed their life cycle and Nature is about to close up the wounds and effect a cure, a second infection from without is possible. This in a sense would be auto-infection if due to carelessness or lack of knowledge. Bedclothes should be washed frequently and thoroughly boiled. Dishes from which the patient eats should be subjected to boiling water at once after each meal, and no other person should use them before heat disinfection. The hands, nails, and hair should be kept scrupulously clean by green soap and other mild antiseptics. The spaces under the nails should be carefully examined, and long nails should not be tolerated. The pores of the skin may be very foul from night-sweats and may be-



come antra for the reception and growth of germs. Bathing, then, is a necessity for the elimination of germs. The baths should never be hot, and for the strong should always be cold, the temperature of the water being considerably below that of the body, and in case of pain in the chest over infected and inflamed portions of the lungs, ice-bags and cold, wet compresses would be far better than poultices. A cold bath night and morning will do much to check night-sweats. This bathing is very essential, and only the very feeble will be in any danger from it. Smart rubbing, massage, and respiratory gymnastics should follow, for a time not to exceed fifteen minutes.

But how shall the patient get good, fresh, cold air? A tent to sleep in at night may be put up on some open lot in the suburbs, the curtains being so arranged as to admit plenty of air, without permitting direct currents to strike the exposed parts of the body. This open air life should begin early in the spring and only end with December, and in the winter the house should be well supplied with cold air, even if it should prove a little uncomfortable for the other members of the household. Cold is not favorable to the development of the bacillus.

For those confined to the crowded sections of the cities night and day, tents or booths on the flat roofs of high buildings might be utilized for night and day use. Thus sanatoria for the poor might be found far above the din and dust, and above infection from the dried sputum; or the diseased worker, who must of necessity toil through the day, though sick, might there find a chance for rest and to regain a little vitality for the morrow's struggle against want, weakness, and death. Hotels might be built on the plan of those for working men, with modern, cheap rooms, well-ventilated but under-heated or not heated at all. There should, of course, be a few rooms for general and social purposes which should be sufficiently heated. Buildings for this purpose should stand on high ground and enclose an open space so as to have a better supply of pure air and sunlight. Floors should be of hard-wood and not carpeted, verandas should surround the house at every floor, and movable couches and hammocks should be on every veranda.

For the patient to avail himself of such places presupposes some means, but far less than would be required for a trip to the far West or other remote parts. It would be a field for the benevolent rich man to build such resorts and maintain them, so that God's poor may feel that God's almoners, the rich, are alive to their wants and recog-

nize their kinship. Many rich men are ready to give when they are convinced that the investment will pay good dividends in comfort to their neighbors. More and more persons are learning that their riches are a trust only accidentally in their hands for good to the world. Cities and towns might well consider erecting tents and roofs supported by timbers only, leaving sides and ends open for admission of air, but supplied with movable screens for breaking dangerous currents of air and shielding from driving rains. These could be erected on public parks or open spaces loaned by private owners. One attendant at such places would ordinarily be sufficient for safety and comfort, and possibly some police supervision might be desirable, but the necessary expense would be little when compared with the immense benefit. The nurse or attendant should know and teach and have power to enforce the laws of health and disinfection. How far the authorities should go in compelling the tuberculous to sleep in such places the writer is unprepared to state; as a rule, separation which is not absolute is an advantage to both patient and friends. The friends have more leisure, less worry, and less exposure to the disease, while the sick one must, perforce, breathe pure, fresh air.

If cities and towns take up this work, if they require cases of consumption to be reported, it would make the work more successful because more extensive. Such a requirement would also serve to educate the people as to the true nature and danger of the disease, and they would also learn that by proper measures consumption is often curable. Only a little mechanical skill will be required in arranging for urinals and bowel dejections. Earth closets and movable urinals are available, but a little thought will insure better arrangements. Spittoons should be simple in construction, so as to be easily cleaned and kept aseptic. The sexes must be separated in such out-of-door establishments. Perhaps in the cities the roof sanitarium would be the best place for women.

These are suggestions only and in the rough, but certainly they have in them the kernel of something useful when any serious attempt to carry them out in detail shall be made. We as physicians have a right to inform and interest the lay public in what concerns their own life and health. I have so much faith in humanity that I believe that if we go out into the highways and hedges where dwell the outcast and neglected sick, and see their need and let the world of rich men know of their wants,

we shall find warm hearts beating under their cold business exterior. In other words, I expect to see within the next ten years a practical benevolence to the sick which will revolutionize and astonish society. The possibilities of generous action for the sick are unbounded. Let us make known our patients' wants. Educate the public, and it will do the rest. How we shall reach those who can give must be left to each one's own genius and tact. Most people think tuberculosis incurable, while we know the contrary in many cases. Their indifference is due to ignorance and submitting to what seems to them fate; their lack of knowledge is due to the indifference of the medical profession.

According to one well-known European physician, a sheltered place is considered, beyond the Atlantic, a necessity for a sanitarium. This is not possible to the town-bound patient, neither do I believe it is always best or advantageous. In any case, to such there is no choice; it must be the city or its suburbs in which must be located the residential means of their cure. Fate has so ordered it and they must stay at home. We and our patients must submit to it, but in submitting conquer it by creating conditions as good for recovery as change of climate. Some of these conditions are named above, and much more might be added, but space forbids.

After all the things mentioned which are of so much importance and require further study and elaboration, medication will be a necessary part of the comfort and cure of the patient. There is a class of cases in the crowded tenement houses which are hopeless unless we can remove them from their surroundings. If we can not remove them to better homes, we must give by our medication as comfortable a life and death as possible.

I will mention a few methods of medication which seem to have a potential claim for effective action in bringing about cure or alleviation. They are, however, for the most part still on trial. The X-rays have had no special effect except to produce a dermatitis. This effect upon the superficial forms of tubercle sometimes makes them available for destruction of the germ during the dermal inflammation. Otherwise their effect is negative.

Fibroid phthisis sometimes suspends itself, partly on account of the pressure of adventitious fibroid tissue, the germ being crowded out and losing vitality. Murphy's suggestion of collapsing the lungs and securing rest by means of injections of nitrogen gas must have had connected with it

the thought also of germ destruction by pressure. It seems reasonable enough to be worthy of a fair trial.

On the other hand, Prof. Ingalls urges constant practice in deep breathing so as to acquire great lung capacity and more perfect oxygenation of the impure, impoverished blood. Dr. Murphy's method would in most cases have just the opposite effect, decreasing lung capacity and so preventing the entrance of oxygen. Choose either horn of the dilemma, for the writer thinks there is almost certainly good in both methods. In cases where hemorrhage has occurred or is feared, Murphy's method would prevent it, while the other would increase the danger at first. This loss of blood should be avoided, although when it occurs we must belittle it to our patients. If serious hemorrhage has occurred, it should always be followed by an injection of normal salt solution, unless after one trial the hemorrhage should recur.

The same amount of salt solution as the blood lost does not restore the same blood-pressure as existed before hemorrhage, on account of increased fluidity and less frictional resistance to its passage through the vessels. To prevent or stop hemorrhage, atropine is useful because it lessens blood-pressure. I prefer  $\frac{1}{8}$  to  $\frac{1}{4}$  grn. of morphine and  $\frac{1}{100}$  to  $\frac{1}{150}$  grn. of atropine, since in this way I get more effect upon the overwrought nerves of the patient.

No antitoxin has been found which promises much for cure of the disease. The serum of the blood of tuberculous patients will cause great agglutination and overcome the motility of the tubercle bacillus in a culture medium. This would seem to hold out a hope that a protective principle will sooner or later be isolated; then if some method of multiplying its strength can be devised, either by concentration or by frequent use, we may find an antitoxin for the disease. Often Nature cures the disease, and we may do the same if only we can find the secret of her process. The eosinophile cells are present in the initial or threatening stages of the disease, but retire when the battle is lost. Their presence has something to do with Nature's cure, but we know only a little of the process. Since serum from healthy persons does not cause agglutination and eosinophile cells in excess are not found except just in the beginning, and not often in the developed disease, the one fact may be of value in telling of the actual existence of the disease, and the other in foretelling its approach. If either of these conditions exists, the patient will probably prove later to

have the disease, though apparently for the present free from it. Quite a large number of cases are on record to prove the truth of this statement, and these cases are reported from thoroughly reliable sources. Such a test for the existence of the disease would be safer than the tuberculin test.

The treatment of tuberculosis with cinnamic acid was founded on Richter's theory that it caused fibroid deposits which prevented caseation and softening, and, finally would result in cure, and if given early enough would prevent the coming of the disease.

Cinnamic acid and sodium cinnamate have had extensive trial; some have become very certain of good results, regarding it as a specific, as near as any medicine can be. Landerer claims fifteen years' experience with it, and is very enthusiastic over it. He has at various times published papers,<sup>1</sup> a book of 300 pages and a brochure,<sup>2</sup> advocating its virtues, in which he is supported by the opinions of some others, whom he quotes.

He states in his book that it creates an intense hyper-leucocytosis or phagocytosis in the vicinity of the morbid process, causing sclerotic process, thereby circumscribing it and by germicidal power destroying the bacillus. He uses the intravenous or intramuscular injection in normal salt solution or some modification of it. Heuser<sup>3</sup> comes to the same conclusions after a less extensive experience. Lovtsky<sup>4</sup> confirms Landerer by an experience of eight cases. Mann<sup>5</sup> adds his testimony to its value. All seem to agree as to its doing its work by hyper-leucocytosis.

It may be that other volatile oils contain acids equally effective, since many of them produce leucocytosis. Other authors may be quoted as agreeing with the Stuttgart professor, among them Hessen.<sup>6</sup> Fraenkel<sup>7</sup> concludes, after a thorough review of the literature of the subject and after a series of cases conducted by himself, that Landerer's treatment of tuberculosis by cinnamic acid gives no better results than can be obtained by other means; as an inhalation, he states, it is useless; taken by stomach it is doubtful, intravenous injection is excessively painful, and subcutaneous injection equally so unless cocaine be used. Out of twelve cases three died, one became worse, three were unchanged, five were improved—of the latter, only one to such a degree that any influence on the part of the medicine could be suspected. In a group of 329 cases collected from the literature on the subject, 65 per cent. were improved.

Madam N. Agmanova, M.D.,<sup>8</sup> discusses

the use of sodium cinnamate and draws conclusions unfavorable to its use. The writer has used it to some extent, but while his impression is not favorable to Landerer's claim, he thinks it may have some claims to occasional use. The danger from hemorrhage is increased by its use, for, like tuberculin, it cuts too deep in its efforts at cure. All agree that it causes increased leucocytosis and necrosis of tissue around the germ. If it acts too deeply, bleeding will supervene; but the process is a conservative one also in many cases and doubtless saves a few lives. It is most useful in the stage of infiltration, destroying the germ and probably favoring active absorption. Practically the medicine is on trial and will not for some time find its true place.

Sodium cacodylate (containing about 50 per cent. of arsenic in organic combination) produces very favorable results. The tendency toward hectic fever is checked, cough and expectoration are reduced and the general condition of the patient is improved, probably depending largely upon the fact that the arsenic overcomes anemic conditions. Its use, then, as an auxiliary to help other medication is desirable. T. M. Murray's tracheal injections, composed as follows, are a relief if not a cure: Eucalyptol, thymol, oil of cinnamon, 4 or 5 minims of each, and 30 minims of castor oil, at each injection, or 10 to 12 minims of either with the same amount of castor oil (30 minims). The technique is at first a little difficult. The syringe must have a curved cannula, which has to be introduced between the vocal cords. An ordinary antitoxin syringe might be used, passing the point into the trachea between the rings; in either way the liquid must be introduced slowly. It may be repeated three or four times at intervals of one or two days. Alleviation of symptoms follows at once. There is usually some gain in the patient's general condition. Murphy did not use castor oil as the vehicle. I prefer it to olive oil or linseed oil.

The iodoform treatment has been used for many years, with indifferent results in the earlier trials; but combined with the use of cod-liver oil and other tonic treatment it has yielded more desirable results than any other alternative treatment, more than 90 per cent. of all the patients being benefited if its use was persisted in for three or four months, the improvement being more apparent the longer it was used. The cod-liver oil must not be left out if the best results are to be obtained. The amount of iodoform taken daily when it reached its maximum was from 15 to 80 grn., varying

according to the capacity of the patient to dispose of it.

Benzosol, eosote and geosote, simple guaiacol, and beechwood creosote have been tried with good results at first, but sooner or later they give rise to gastric disturbance. Perhaps no medication except cod-liver oil has had so much popular and professional confidence as creosote and its modifications and derivatives, yet like cod-liver oil it could not be used for long periods without disgusting the stomach and the patient. Seeing this, investigators were compelled to begin a search for something more grateful and at the same time efficient. It should be soluble, not bad-tasting, and yet be a disinfectant to the stomach. Thiocol (potassium guaiacol-sulphonate) answers these conditions. To tone up the stomach and add to the appetite and the power of digestion, orexine tannate answers the purpose; while heroin, codeine, and dionin are found useful for cough and to secure rest and freedom from pain. Dionin is the writer's preference for this purpose. When these fail, morphine is sometimes found desirable. These remedies have been used by the writer in five or six cases for a long time, and for a short time in many other cases. There was one death among the worst cases without much alleviation of symptoms, but thiocol was used with much benefit in the case of all the others. Night-sweats disappeared, fever grew less, and flesh was gained, and the physical signs of the disease either lessened or disappeared altogether. After giving orexoids (tablets of orexine tannate) with bismuth subnitrate, diarrhea seldom appeared and never persisted.

Agaricin, thallium acetate, and atropine are necessary for some cases of night-sweats. Camphoric acid, 15 to 30 grn. at bedtime, would check sweating for several nights, and would, therefore, not need to be repeated during that interval. Cold sponge baths should precede retiring. Thymol in capsules is good for fever; 4 grn. three times daily are given at first, increasing each day until the fever is conquered, 60 to 90 grn. per day being the highest limit. It should be used for a few days only, and then there should be a rest of a day or two. There are changes of retrograde metabolism, katabolism, sclerosis of vessels, weakness and enlargement or other abnormal changes of heart and nerve degeneration, which are best met by strychnine in medium doses. The combination of some opiate in small quantity with this powerful remedy is desirable for reasons of comfort and safety. Opiates and alcohol are an occa-

sional necessity early in the disease, but should be used charily at this stage. Later they may be used more freely, in hopeless cases, for euthanasia. Dilute hydrocyanic acid is useful in late consumption for troublesome cough.

There is much more to be said about treatment of the specific stage of the disease; but there comes a time when the cocci get in their work and septic fever comes on. Here there is no specific, the antistreptococcal serum not being of any proven power or even probable value. General supporting and eliminating measures are the proper treatment until further light comes, and the sweating, diarrhea and expectoration are probably more or less for the purpose of unloading septic material, as is shown by the material contained in the excretions and dejections. Now, while they are Nature's way of eliminating and must not be stopped entirely, they are very enfeebling and must be regulated and controlled so that Nature will not become hysterical in her exertions to free the system from the poison, and so fail. Nature is behind every attempt at cure, but is blind, partially at least, and goes unwittingly from one extreme to the other, either overdoing or underdoing. The physician is to interpret its effects and assist or retard as the case may demand.

In whatever way we treat a case, we must keep in mind one fact: that open air and out-of-door employment are an absolute necessity to improvement or recovery. To secure this by some of the means suggested or by other plans which have been better digested and are more feasible, should be a first thought. Residence in the suburban towns gives a long start in the right direction, even if business calls to the city.

<sup>1</sup> *Presse m'd.* Jan. 7, 1899, and at other times. <sup>2</sup> "Der Gehirwärtige Stand der Hetol (Zimmstaun) Behandlung der Tuberkulose." <sup>3</sup> *Therap. Monatsh.*, June 15, 1897. <sup>4</sup> *Vratch*, xx, No. 1. <sup>5</sup> *Med. Record*, Feb. 4, 1899. <sup>6</sup> *Therapist*, March 15, 1900. *Deut. Arch. für Klin.-med.*, Feb. 6, 1900. <sup>7</sup> *Thèse de Nancy*, 1899.

## THE CLINICAL VALUE OF SOME OF THE NEWER HYPNOTICS<sup>1</sup>

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INSOMNIA is but a symptom, and hypnotics have no direct curative effect on the causative disease. Nevertheless, refreshing sleep is so necessary for the conservation of a patient's physical and mental powers, and

<sup>1</sup> Read before the New Hampshire Medical Society at Concord, N. H., June 16, 1901, and printed in the *Boston Med. and Surg. Jour.*, July 18, 1901.

has such an important bearing on the course of such a variety of disease processes, that the medical profession is ever clamorous for new means for its easy and safe production. Hence, there have been suggested all sorts of devices, and a long list of drugs, to be employed with this one end in view. Many of these means are so impracticable, or are used with such discomfort or danger, that they have but a scientific interest or can only rarely be employed.

Of the hypnotic drugs recommended, many are practically inert, while others are of such varying power or disagreeable taste as to impair greatly their reliability and general usefulness. In late years, by the advances in synthetic chemistry, there have been discovered many new compounds that have taken a permanent place in the list of available hypnotics. Every one who has used them extensively, however, finds that each has its drawbacks, but that there are special indications in practice where certain ones seem to act better than anything else. It is in the determination of these special indications that the chief difficulty in testing a hypnotic lies.

A great deal has been written about the *ideal* hypnotic, and efforts made by the advocates of some new product to prove that theirs alone meets all the requirements and should be used exclusively. But, in view of the great diversity of the causes of insomnia, it would seem unwarrantable to expect a universal remedy that would act best in every case. Indeed, it is not at all desirable that every case of insomnia should be treated alike.

Another reason for incorrect or biased opinion in regard to the value of hypnotics is the well-known fact that, in many cases where they are given, the mental suggestion acts quite as powerfully in inducing sleep as the small dose of the drug itself. Indeed, we occasionally find that a nervous, sleepless patient will be quieted for the whole night by merely some seasoned water or little sugar pill. Obviously, then, conclusions based on observations with such patients might well be misleading, both as regards any real activity of a new drug or its proper dose. I have seen a patient go to sleep within five minutes after taking a capsule of sulfonal when hot baths and massage had previously been employed in vain, simply because the patient "wanted the medicine," and would only be satisfied and calmed when his whim was gratified. In such a case the capsule itself would hardly have had time to dissolve, without mentioning the difficult solubility of the drug; and certainly half the dose would have been as efficacious.

Another error to be guarded against in testing the merits of a hypnotic is giving an unnecessary dose, just because the patient has been sleepless for some nights previously. Often on the testing night the patient will sleep without anything, as is observed occasionally when the quieting powder fails to be administered. One often is obliged to give a harmless dose to insure sleep, when it is not absolutely certain that such is imperative; but such cases, also, should not be included in the test series.

Thus, in selecting a hypnotic, the "suggestibility" of the patient, his physical state and general mental condition should be considered, as well as the primary disease, and the general character and action of the drug itself. It is a safe rule to state that drugs that are recommended for many things are really good for but few. So hypnotics that possess many other supplementary powers are often found wanting in the essential effects for which they are given. Take, for example, the much-abused opium. It certainly will produce quiet and lasting sleep, but accompanied by so various by- and after-effects that its use for this purpose has justly fallen into disrepute. In a given case the drug selected should produce sleep, and sleep alone, and that promptly. Its effects should last not longer than five or six hours, and its use create no "habit" or other deranged function of any organ. This is our idea of the ideal action of a soporific. The drug itself or its dosage may have to be changed, however, to suit each individual case.

From the nature of the case it can then be readily seen that it is not always an easy thing to obtain a just appreciation of the hypnotic value of a drug. This difficulty is especially great in private practice, where often the imperfect reports of the patients themselves furnish the only basis for conclusions. As is well known, insomnia is most troublesome and frequent in certain diseases of the brain and nervous system, and probably the greater part of the hypnotic remedies manufactured are used in the many public and private institutions for the care of the nervous and the insane. And these places offer, too, special facilities for the careful selection and observation of suitable cases in testing the properties of new sedatives.

In a recent investigation of the comparative value of some of the newer hypnotics at the New Hampshire State Hospital at Concord, the compounds dormiol, chlore-tone, and hedonal received, among others, most careful attention. After a brief separate description of the properties and

physiological actions of each, a summary of their comparative value as hypnotics in our hands will be attempted. Special attention is drawn to the fact that all the cases in which they were tried were such as offered no probability of natural sleep on account of continuous nervous unrest or noisy agitation; so that it seemed fair to refer the prompt effects to the action of the drugs alone.

#### DORMIOL

Dormiol,  $\text{CCl}_2\text{C}(\text{OH})_2(\text{C}_2\text{H}_5)_2$ ,  $\text{C}(\text{C}_2\text{H}_5)_2$ , is a chemical compound of equal molecules of chloral and amylene hydrate. Its chemical name, therefore, would be "dimethylethylcarbinol-chloral or amylene-chloral." At ordinary temperatures it is a colorless, limpid, oily fluid with a specific gravity of 1.24, and it is not decomposed by boiling. It is volatile, with a peculiar penetrating odor and an aromatic, slightly burning taste. It is readily soluble in alcohol, ether, chloroform, acetone, benzin, and the fatty and ethereal oils. With an equal quantity of water it at first forms a milky fluid, which slowly becomes a perfectly clear 50 per cent. solution of the drug, and in this form is supplied to the trade. It is usually dispensed in a 10 per cent. solution made by shaking 4 parts by weight of distilled water with 1 of the stock solution; but this weak solution is not permanent, and has to be kept cool and from light. For a full report on the chemical properties of dormiol the reader is referred to an article by its inventor, Dr. G. Fuchs, in the *Zeitschrift für angewandte Chemie*, 1899, No. 49.

**Physiological Actions.**—External.—Dormiol possesses marked antiseptic properties, but is too irritating and painful to apply to abraded surfaces. When applied on cotton to the skin, and bound on so as to hinder evaporation, "vesication" over the area of direct contact is produced, surrounded by a wide margin of erythema. In these respects it very much resembles chloral. Hypodermatically, it produces considerable pain and local irritation.

**Internal: Alimentary Canal.**—Although the taste is not very agreeable, patients take weak solutions remarkably well. We have usually given it several hours after food, and in no case has it given rise to disagreeable gastric sensations. The appetite is unimpaired even under its continued use, and it is not constipating.

**Blood.**—It probably is not decomposed in the stomach, but circulates in the blood unchanged. It is very rapidly absorbed, often producing its systemic effects within fifteen minutes after ingestion.

**Circulation and Respiration.**—In over 250 instances, in which its effects were closely watched, no depression of either of these functions was noticeable beyond that natural to quiet sleep. At first this was a matter of considerable surprise, when observing, for instance, an agitated melancholiac who would, almost immediately after taking the drug, quiet down and drop into a dreamless slumber. Of the effects of poisonous doses we have had but little experience. In one case, however, owing to a mistake on the part of the druggist, 15 Cc. (4 dr.) of the 50 per cent. solution was given instead of the same amount of the 10 per cent. solution that had been ordered. Thus the patient took 8 Gm. (120 grn.) of pure dormiol, or five times the usual maximum dose. The patient slept all night and late into the next day. He could be easily roused, and was perfectly rational, but very drowsy. He was gotten up to dinner and partook rather heartily. This but aggravated the drowsiness, and he fell from his chair as in a faint. Immediately he was put to bed, his heart beat was regular and strong and 88 per minute. He slept for nearly all that day—rousing only for meals—all through the next night and part of the next day, and it was not until the third day that the full effects had disappeared. This excessive dose was purely accidental, but fortunately served to show the comparative harmlessness of this preparation, as no ill-effects were noticeable on the heart, respiration, or digestion. We would not recommend any such doses as safe for the ordinary patient, as this man was particularly large and robust. By physiological experiments on animals, Fuchs and Koch found it took 48 per cent. more dormiol to produce toxic symptoms than with pure chloral hydrate.

**Brain.**—It is upon the functions of the cerebrum that dormiol seems to have its first and chief action. As to *how* the nerve cells in the brain are affected, we would not guess. To the theory advocated often of late, which prettily explains the action of hypnotics by picturing a sudden retraction of the dendrites of the neurons under the stimulus of the drug, and a consequent disruption of nervous continuity in the brain centers, resulting first in incoherence of thought and act, wanderings, drowsiness, with, finally, complete mental inaction, we cannot lend our sanction. What we do know is that dormiol will almost invariably quiet nervous unrest and induce sleep, and often in the severest grades of mental exaltation and depression. Occasionally, however, it fails. Sometimes this may be due to lack

of absorption from a deranged stomach. Generally, however, repeated doses in such a case demonstrate a peculiar personal tolerance to the drug, or individual idiosyncrasy. In the vast majority of instances it has proved of eminent value, one of the safest, surest, and quickest hypnotics that we possess, particularly in the various stages of mental depression.

The following analysis of 250 cases in which this hypnotic was administered strikingly illustrates its rapidity of action, its reliability, and its total freedom from injurious effects on the heart. Most of the data were collected for me by a very reliable night nurse. Doses of dormiol were not administered for simple "sleeplessness," but to induce sleep in insane patients during their periods of restless or noisy excitement. The dosage varied from 4 to 15 Cc. (1 to 4 dr.) of the 10 per cent. solution. As a rule, it was found better to give one large dose than several smaller ones. A practical point in this connection is that we have found the 10 per cent. solution bought at our druggists and that obtained direct from manufacturers not as powerful as that made fresh by us from the 50 per cent. stock, which is a more permanent preparation.

The usual time for administering the dose was late in the evening. But it would reproduce sleep after the patient had awakened with noisy agitation from a previous nap. At such times its prompt action saved much disturbance in the wards, which usually occurs with other commonly employed but slower acting agents. When given in the daytime it often would fail in these doses in producing sleep, on account of the many disturbing influences then, but was most acceptable in always inducing a calmer and more rational habit of mind.

In 37.6 per cent. of the cases sleep was induced within fifteen minutes after ingestion of the drug; in 43.2 per cent. in from fifteen to thirty minutes; so that in all about 81 per cent. of the patients went to sleep in less than half an hour, while the average interval between the administration of the drug and sleep was only twenty-eight minutes. This places dormiol, we think, at the head of the list of hypnotics administered by the mouth, in regard to rapidity of action.

In 15 per cent. of the cases a second or a third dose had to be given to induce sleep, and in about 6 per cent. no sleep occurred. In these last cases, however, the dose was not repeated, but most of them became more quiet and restful. In only 2 instances, or .8 per cent., no effect whatever was noticeable.

The duration of the sleep varied from one hour to ten and one-half hours. The average duration in the 250 cases was about five hours. When the patients awakened in one or two hours they were apt to be somewhat drowsy and quiet for some time thereafter. But after a nap of four or five hours they almost invariably showed no further effects of the drug, and might immediately continue their talk or activity as if no interruption had occurred. In no case did any one complain of subsequent headache or other disagreeable subjective symptoms which so often follow the administration of chloral and some other hypnotics.

#### CHLORETONE

When caustic potash is slowly added to equal weights of chloroform and acetone, a new compound is formed which may be isolated from the mixture by distilling with steam. This compound is a white, crystalline solid which at body temperature slowly sublimes to form glistening white needles, and has been named "chloretone." It has a strong camphoraceous odor and taste, and is readily soluble in chloroform, acetone, strong alcohol, ether, benzene, and glacial acetic acid, but only slightly soluble in water. It melts a little below the boiling point of water and boils at 167° C. Dilute acids or alkalis seem not to affect it in the least. Its chemical formula is said to be  $\text{CCl}_3\text{-(CH}_2\text{)}_2\text{C.OH}$ , and its chemical name would therefore be "trichlor-tertiary-butyl alcohol."

*Physiological Actions.*—External.—Laboratory experiments show that this drug also possesses marked antiseptic properties. Blood serum and other organic fluids keep indefinitely when saturated with about one-half of 1 per cent. of chloretone. It will also destroy living bacteria. Thus it has been used as an antiseptic wash in burns and other painful injuries, both on this account and because of its powerful local anesthetic properties when applied to abraded surfaces or to mucous membranes. Dilute solutions are very safe and efficient as local anesthetics when given hypodermatically as a substitute for cocaine.

Internal.—When ingested it soon produces anesthesia of the mucous membrane of the mouth, throat, and stomach. Thus it may be retained in irritable stomachs, when most other things might be speedily ejected. It is not absorbed very quickly, and it is usually nearly an hour before systemic effects are produced. The patients first complain of the taste, and of disagreeable sensations in the stomach, which are apt to cause anorexia and some impairment of di-



gestion. They then describe a peculiar paresthesia of extremities, pricklings, formication, etc., which may pass on to more or less complete general anesthesia. These effects may be dominant for some time previous to sleep. In a case of acute mania with symptoms of exhaustion a large dose had been given about 11 A. M. The patient continued active about his room until the middle of the afternoon. Then he grew quiet, but was determined to stand. He seemed dazed, and physical examination revealed considerable anesthesia of the skin over his whole body. It was only after considerable effort that he was induced to go to bed, but soon afterwards he dropped into a quiet sleep which lasted well into the next day. In this case the heart-beat, though regular, was much slowed and became markedly weaker.

Chloretone has been used in experimental physiology, pharmacology, and surgery to produce complete general anesthesia in the lower animals. Spectroscopic examination of their blood when anesthetized shows no change in the hemoglobin, although chloretone circulates as such in solution in the blood. The pulse rate is slightly lessened, and kymographic tracings taken from the carotid in dogs show the blood pressure usually unaffected.

This drug seems to have a selective action upon nervous tissue, and it is in this way that it produces its hypnotic effect. It lulls to inactivity both motor and sensory cells, but the latter would seem to be sooner and more gravely affected than the former. By thus relieving any bodily pain and cutting off the many influences of the surroundings which tend to stimulate sensory reflexes, chloretone isolates the mind, so to speak, from its disturbing influences, and a dreamless sleep is soon induced.

We have tabulated the results of our observations in 71 instances, in which the effect of this drug was studied. The patients were in many instances the same ones to which we had given dormiol on previous occasions. To be efficacious a considerably larger dose was necessary than is generally recommended. Thus small doses of 0.3 to 1 Gm. (5 to 15 grn.) had to be repeated several times in order to induce sleep. Finally it was found best in our patients to commence with a 1.3 to 1.6 Gm. dose (20 to 25 grn.) and repeat it once or twice, if necessary, at hour intervals. The largest dose given was about 5 Gm. (75 grn.) within an hour and a quarter. In 18.3 per cent. of cases sleep followed within fifteen minutes after administering the drug, though some of these cases had had previous doses that

had been ineffectual. In 29.5 per cent. sleep followed in from fifteen to thirty minutes. So that in nearly 48 per cent. of the cases sleep was induced within the first half hour. This is a little more than half as many as went to sleep under smaller doses of dormiol. In nearly one-quarter of the cases (23.9 per cent.) three or four doses had to be given before sleep was produced. The average time of all cases between the last dose and the time when they first dropped to sleep was forty-eight minutes.

The duration of the sleep was from one-half an hour to twelve hours, with an average duration of about four and one-half hours. Even after awakening there was a tendency to anesthesia and drowsiness for some hours, though no permanent untoward effects were ever noticed. The pulse was apt to be somewhat depressed both in volume and frequency, though often no change could be noted by the finger even after repeated doses. A few of the patients soon learned to dislike this preparation, both on account of its taste and also from the disagreeable after-sensations, which were rather hard to describe but uniformly disagreeable. Those who usually voluntarily chose hypnotics almost invariably preferred dormiol or hedonal to this preparation, on account of these subjective sensations.

#### HEDONAL

This compound is a derivative of urethane, and is chemically methyl-propyl-carbinol-urethane. It is a fine, white, crystalline powder, insoluble in cold water, and but slightly soluble in warm water and in alcohol. It is rather disagreeable to the taste, and is best taken in capsules or wafers, or mixed with a small quantity of syrup. The usual dose for an adult is 15 to 45 grn.

*Physiological Action.*—Professor Dresser experimented with this drug on dogs, and found that in them it took only about half as much hedonal as chloral hydrate to produce sleep. He found no evidence of deleterious action upon the heart or respiration. Dr. E. Raimann, of Vienna, concluded, from prolonged research on a variety of animals, that the ordinary lethal dose was 15 grn. for every 2 lbs. of body-weight. After administering very large doses he noted considerable depression of the circulation, respiration, and temperature. A number of reports of its extensive trial the last year in several of the hospitals in Germany are highly commendatory of its use as a hypnotic.

From our experience in 35 cases we cannot speak as unguardedly of its uniform



results as have some others. In only 8.2 per cent. of these cases was sleep produced within fifteen minutes after the first dose, and in less than 30 per cent. within the first half hour; while in over 25 per cent. no sleep occurred on the night hedonal was used.

In many of these last cases no effect whatever was noticeable, though some grew more calm. The intervals between the last dose and the first sleep varied considerably, with an average interval of thirty-seven minutes. The sleep was quiet and restful, but easily disturbed. Its average duration was two hours and a half. No disagreeable after-effects were complained of, and no depression of the circulation or respiration was at the time noticeable. The drug did not seem to affect the appetite or digestion at all, and, in fact, one of its chief recommendations is its innocuousness. This is associated, unfortunately, with such feeble hypnotic powers as to make it generally unreliable in emergencies, but certainly applicable to the milder forms of simple insomnia.

#### CRITICAL SUMMARY

In contrasting the relative merits of these three hypnotics—dormiol, chloretone, and hedonal—but a few of their general characteristics will be touched upon.

(1) *Ease of Administration.*—On account of its perfect solubility and more agreeable and more easily disguised taste, dormiol is taken much more readily than either of the others. The abominable taste and anesthetic effect of chloretone make it especially objectionable in this connection.

(2) *Safety.*—In our hands both dormiol and hedonal have proven perfectly safe in any ordinary dosage, even when given repeatedly to feeble or exhausted patients. With chloretone, however, as above stated, we have seen symptoms of dangerous depression, beside which its disagreeable by- and after-effects render its field of usefulness more restricted.

(3) *Rapidity of Action.*—In this respect dormiol stands easily first. Next, perhaps, comes hedonal, with chloretone a later but more powerful third.

(4) *Character of Sleep.*—On account of the accompanying subjective symptoms, chloretone ought not to be employed for simple sleeplessness, but is sometimes invaluable where pain or bodily discomfort is a causative factor. Hedonal and dormiol are more purely hypnotic in their action, and both give refreshing rest, both physical and mental. The duration of the sleep with dormiol is liable to be longer than that with

chloretone, and much longer than that produced by the use of hedonal.

(5) *General Utility.*—Hedonal, we would say, is applicable to slight forms of insomnia unassociated with bodily pain or severe mental excitement. It is valuable as a placebo, having a direct though not very powerful tendency to produce sleep. Patients take it quite readily, and it should be useful in a very large class of cases.

Chloretone is a powerful and pretty certain hypnotic if given in sufficient doses. Its general use to produce sleep, however, should be discouraged on account of its secondary effects. But these very defects may make it especially valuable in certain selected cases. Its action should always be carefully watched. The disagreeable subjective sensations it may produce are often insurmountable objections to its use.

Dormiol, while certainly not the most powerful sedative that we possess, answers well the requirements for a generally serviceable hypnotic. Its rapidity of action, we believe, is unsurpassed by any other hypnotic taken internally. This characteristic, together with its ease of administration, reliability in almost all forms of insomnia unattended with great bodily discomfort, and almost total absence of by- and after-effects, subjective or objective, makes it one of the most valuable acquisitions to the physicians' armamentarium of recent years. It probably will win a place in the Pharmacopœia.

[Written for MERCK'S ARCHIVES]

### AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Björkman, A.M., M.D.,

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**ABORTUS (Abortion).**—Prophylactically, when there is a suspicion of syphilitic antecedents, give anti-syphilitic treatment to the mother. In *threatened abortion*, absolute rest mentally and physically. Patient to be kept in bed, room dark: only light and cool food. Tinct. of opium, 12 drops every two hours, or opium suppositories (formulas 2 and 3). Fluid extr. viburnum prunifolium, 10 drops every half hour, or  $\frac{1}{2}$  to 1 teaspoonful every three hours. If uterine contractions continue: Hypoderm. injections of morphine [0.015 ( $\frac{1}{4}$  grn.) + atropine sulphate, 0.001 ( $\frac{1}{100}$  grn.)]; or chloral hydrate and extr. viburnum prunifolium.

In case of threatened abortion certain drugs should be avoided: strong *drastics*, for instance, aloes, jalap, scammony, senna,

podophyllin, and elaterium; also quinine, cantharides, pilocarpine, emetics, strychnine, erigeron, senecio, and general abortifacients. If abortion is inevitable and no signs of infection are present, only expectant measures are necessary. If signs of hemorrhage: tampon the vagina with iodoform gauze and aseptic cotton.

If alarming hemorrhage occurs: vaginal douches with hot antiseptic solutions (lysol, creolin, or weak sublimate solution), thorough tamponade of vagina and, if necessary, even of uterus. If infectious symptoms are present: speedy evacuation, digital or instrumental curettement. *Ergot to be used only after thorough evacuation.* Irrigation of endometrium with iodine solution or weak carbolic acid solution. Tamponade with iodoform or silver (Credé) gauze of the whole uterine cavity and vagina. If septic symptoms continue after this treatment: inunctions with Credé's collargol ointment (see Septicemia) may be tried without delay, or streptococcic serum, by subcutaneous injection.

For further advice as to after-treatment, see under Endometritis.

- (1) Ext. Fl. Viburn. Prunifol. .... 60. (2 oz.)  
One-half to one tablespoonful every three hours.
- (2) Extr. Opii. .... 0.06 (1 grn.)  
Lupulini. .... 0 3 (5 grn.)  
Butyr. Cacao, q. s. ut fiat supposit. unum.  
Dr. tal. supposit. No. vi.  
One to be inserted three times a day.
- (3) Extr. Opii. .... 0.06 (1 grn.)  
Extr. Cannab. Ind. .... 0.12 (2 grn.)  
Extr. Hyoscyami. .... 0.12 (2 grn.)  
Butyr. Cacao, q. s. ad supposit. unum.  
Dr. tal. supposit. No. vi.  
One to be inserted three or four times a day.
- (4) Extr. Secal. Cornuti. .... 1.5 (24 min.)  
• Tinct. Cinnamomi. .... 30. (1 oz.)  
Teaspoonful every ten minutes until hemorrhage ceases.  
Ergotole for hypoderm. injection. 10 to 30 drops.  
Ergot Aseptic. 1 Cc. (15 min.) equal to 2 Gm. (30 grn.) of ergot (hypoderm. inject.)
- (5) Tabletæ Stypticini (Merck). 0.05 ( $\frac{1}{4}$  grn.)  
No. xv.  
One every ten minutes to every hour until hemorrhage is stopped. (Stypticin is chemically cotarnine hydrochlorate.)
- (6) Ferropyrini. .... 0.5 (8 grn.)  
Eleosacchari Menth. Pip. .... 0.3 (5 grn.)  
Dr. tal. dos. No. xii.  
One powder every one or two hours until hemorrhage ceases.  
Twenty-per-cent. solution ferropyrini (sterilized) or the powder itself may be applied to the bleeding endometrium with favorable results.
- (7) Natrî Chlorati (Table Salt). 5. (75 grn.)  
Aquæ. .... 1000. (2 pints)  
Use for a rectal injection in alarming bleedings. (Acts both as a hemostatic and a blood-plastic agent.)
- (8) Tabulæ Hydrarg. Chlor. Corrosiv. cum Ammon. Chlor. (Hy Cl, 7.7 grn.; NH<sub>4</sub> Cl, 7.3 grn.) .....  
No. xxv.  
One dissolved in a pint of water (making 1:1000 sublimate solution, as external irrigating fluid. (1:2000 for vaginal purposes.)
- (9) Potassii Permangan. .... 120. (4 oz.)  
Teaspoonful or dessertspoonful in a quart of water (lukewarm) for irrigations.
- (10) Formaldehydi (40%) ..... 120. (4 oz.)  
Teaspoonful in a quart of water for irrigations.
- (11) Unguenti Collargoli (Credé). 12. (3 dr.)  
One-fourth of the whole amount to be rubbed into the skin of the back or chest for forty-five minutes, or until the salve almost disappears. Should be done twice a day, when pronounced symptoms of septicemia are present.

ABRASIO (Abrasion); see also Combustio (Burns).—If a bruise is fresh the epidermic shreds may be left (if older, the epidermic shreds should be cut away). Then thorough cleansing with weak formaldehyde solution, boric acid solution, or very weak corrosive sublimate lotion. After wiping dry with sterile cotton, dust with some antiseptic powder (form. 12) and close with a slight layer of cotton, to which is applied aristol-collodium, until a perfect plaster is formed.

- (12) Aioli. .... 8. (2 dr.)  
Apply externally.
- (13) Xeroformi,  
Orthoformi, aa. .... 1 (15 grn.)  
Dr. ad scatulam.  
Dust on with a clean and sterile brush.
- (14) Aristoli. .... 1.5 (24 grn.)  
Collodii. .... 15. (4 dr.)  
Dispense in dark, wide-mouthed bottle with brush. (Aristol-collodium). To be applied on a thin layer of sterilized cotton (over the aseptic surface), forming with the collodium an occlusive dressing.

This treatment concerns only small abrasions or bruises; if larger surfaces are involved, the treatment should be as advised under Burns and Scalds (Combustio). Instead of aristol-collodium and cotton, other covering substances of antiseptic nature may be used. We mention, among others, Unna's gelanthum. Adhesol is also a very convenient substance to cover abrasions both of the dermis and of mucous membranes.

ABSCUSSUS FRIGIDUS (Cold Abscess; Chronic Abscess. See also Tuberculosis).—If surroundings permit, the abscess is to be opened free and good with all antiseptic precautions. When thoroughly evacuated, the cavity is curetted, walls rubbed in with iodoform or other antitubercular agents, after most perfect cleansing of the inside. Drainage with iodoform gauze, suturing up to the drainage, and continued antiseptic bandage applied. If doubtful antiseptic sur-

roundings, the abscess should be aspirated with a large syringe until emptied, and a thoroughly sterilized iodoform emulsion returned into the cavity (see form. 15). If the abscess is complicated with mixed infection (pyogenic cocci), the iodoform treatment is not sufficient. Then a 1-per-cent. solution of collargol should be injected with the iodoform emulsion.

The diathesis should always be closely observed in case of cold abscess, and general antitubercular tonics applied or climatic changes advised.

(15) Iodoformi (Subt. Pulv.).....5. (75 grn.)  
Wash in a 1 to 500 bichloride solution. Then dissolve in:

Olei Amygdal.....100. (3¼ oz.)  
by the aid of a water-bath. Dispense in dark bottle. (Emulsion for injections.)

(16) Iodoformi (Subt. Pulv.) 2. (30 grn.)  
Glycerini.....20. (5 dr.)  
Natrii Formicici.....0.5—1.5 (8 to 24 grn.)  
Mix well. Dispense in sterilized, dark bottle. (Emulsion for injections into cold abscess.)

**ABCESSUS (Acute Abscess; Warm Abscess).—**In the very first stage the induration may be reduced by moist applications containing strong antiseptics. A very effective local lotion is:

(17) Hydrarg. Bichlor. Corr.. 0.25 (4 grn.)  
Formaldehydi.....10. (2½ dr.)  
Aque.....1000. (2 pints)  
Apply on gauze to the inflamed part; change every two or three hours.

Internally may be given 1 to 3 drops of tinct. aconiti (close observation of pulse) every hour, or 1/10 grn. (0.006) of calcium sulphide every hour. Tinct. veratrum viride, 1 drop every hour, until pulse is slow and skin moist.

**Surgical Treatment of Acute Abscess.**—Surface, well shaved, is scrubbed with green soap, ether and alcohol, and then cleansed with sublimate solution (1:1000). Before incision, local anesthesia is produced either by means of ethyl chloride spray or by superficial infiltration by Schleich's solution; or by Heinze's anesthetic infiltration fluid (form. 18). Then a free and good incision of the surface. If abscess is deep, a common forceps may be introduced in the deeper parts and opened inside, when the pus will well out as long as the forceps are kept open. After thorough evacuation, an irrigating fluid, hydrogen peroxide or sublimate solut. (1:4000), is injected into the abscess cavity until all detritus is washed away. Then drainage and full antiseptic dressing is applied.

(18) B-Eucaini.....0.1 (1½ grn.)  
Natrii Chlorati.....0.8 (12 grn.)  
Aque Dest. Steril.....100. (3¼ oz.)  
(Heinze's solution for infiltration anesthesia.)

**ACNE (Pimples).**—The physician should always take the diathesis in consideration and inquire into existing morbid conditions or disorders of circulation, digestive organs, and genital diseases. Predisposing causes are anemia, dyspepsia (especially when dilatation of stomach exists), menstrual irregularities, arthritis, and, last but not least, constipation. Certain drugs, iodides and bromides, mechanical irritation by tar and other agents, may lead to acne. For general treatment, see Anemia (no iron preparations), Dyspepsia, Amenorrhea, Dysmenorrhea, Arthritis, and Constipation. *Liquor habit must be abandoned.*

Acne vulgaris or simplex occurs in different forms and has to be treated differently according to its nature. Young people before and after their twentieth year are often bothered with pimples face—sometimes caused by anemia, sometimes by irregular bowels. These unhealthy conditions should be cared for and a local application of the following lotion resorted to:

(19) Acidi Acetici,  
Tr. Benzoini,  
Spir. Camphoræ, aa.....8. (2 dr.)  
Spir. Vini Rectif., ad.....120. (4 oz.)

To be applied with a small sponge before going to bed. If strong irritation sets in, stop the application for one or two days. After medicine has dried in, dust with talcum or starch powder.

(20) Zinci Oxidi.....4. (1 dr.)  
Sulphur Præcipitati.....3. (45 grn.)  
Boli Albæ (Sterilisatæ) ..4. (1 dr.)  
Adipis Lanæ.....16. (4 dr.)

Apply in the evening and wash off with antiseptic water in the morning.

Larger acne pustules should be incised, curetted, and treated like boils.

(21) Resorcin.....3. (45 grn.)  
Zinci Oxidi,  
Amyli, aa.....8. (2 dr.)  
Paraff. Liquid.....30. (1 oz.)  
Externally.

(22) Ichthyoli.....3. (45 min.)  
Adipis Lanæ.....30. (1 oz.)

Apply in a thin layer at bedtime. In the morning the face has to be well washed with sterilized water and alkaline soap spirit.

(23) Hydrarg. Bichlor. Corros.. 0.12 (2 grn.)  
Spir. Vini Rectif.....60. (2 oz.)

Apply once a day with a little brush of camel's hair. Before applying, the skin should be thoroughly cleansed with soap and hot water.

(24) Bismuth. Subnit.....3. (45 grn.)  
Ung. Hydrarg. Ammoniaci. 30. (1 oz.)  
Externally.

(25) Sulphur. Præcip.....8. (2 dr.)  
Camphoræ.....0.5 (8 grn.)  
Acaciæ.....1. (15 grn.)  
Aque Calcis,  
Aque Rosæ, aa.....60. (2 oz.)

Shake well before using. To be rubbed into the skin at bedtime.

(26) Formaldehydi.....Gtt. i (1 drop)  
 Aquæ Dest.....Gtts. c (100 drops)  
 Of this solution, 1 drop is infiltrated by means of a hypodermic syringe in the skin very near the acne. Pain is slight, but cure effective.

(27) Brewer's yeast (*Ferment. Cerevisiæ*) taken internally, one-half to a teaspoonful three times a day or more, is said to be very effective against acne.

(28) Alumnoli..... 3. (45 grn.)  
 Aquæ Rosæ.....90. (3 oz.)  
 Apply as a lotion in acne or furunculosis.

(29) Europheni..... 5. (75 grn.)  
 Vaselinei.....30. (1 oz.)  
 Externally.

Internally, ichthyol should be given and the results are sometimes splendid.

(30) Ichthyoli..... 5. (75 min.)  
 Aquæ Dest.....15. (4 dr.)  
 15 to 20 drops in water morning and evening.

Massage proves to be a very effective curative in chronic acne, but the surface should always be thoroughly cleansed before with a 1-per-cent. formaldehyde solution or massage performed with an antiseptic salve. Dr. Nevins Hyde's massaging-ball is a very good little instrument for mechanical massage and has given splendid results.

ACNE ROSACEA.—Incipient rosacea may be treated therapeutically as acne vulgaris, although stronger doses and agents often must be resorted to. Some good local remedies (form. 31 and following) may be tried with good results, but the surgical or electrolytic treatments have in general been giving the best curative results (see below). Dietetic suggestions to be followed and the diathesis studied.

(31) B-Naphtoli..... 2. (30 grn.)  
 Sulphur. Sublim.....10. (2½ dr.)  
 Saponis Viridis,  
 Adipis Lanæ, aa..... 5. (75 grn.)

Apply to the face on gauze or linen in a very thin layer, and let act from fifteen to thirty minutes or more. Afterwards dust with talcum. May be repeated three or four evenings, but only once a day.

(32) Hydrarg. Iodidi Rubri..... 1. (15 grn.)  
 Adipis.....30. (1 oz.)  
 Externally.

(33) Hydrarg. Bichlor. Corros. 0.60 (10 grn.)  
 Aquæ Rosæ.....90. (3 oz.)  
 Spir. Coloniens..... 5. (1 dr.)

Use poison label. Apply with a camel's hair brush, but take care that no medicine comes into the eyes.

(34) Saponis Viridis.....30. (1 oz.)  
 Spread on linen and apply to the affected part. (It should be kept in place as long as the patient can endure the irritation. Afterwards cooling salves may be applied.)

Green soap is one of the most effective therapeutic agents in rosacea or common acne. May be used alone or combined with sulphur, naphtol, or salicylic acid.

*Surgical Treatment of Rosacea.*—Scarification of the pustules under strict antiseptic precautions, or use the smallest point of Pacquelin, following the dilated veins up to their first ramifications. Electrolysis has also given good results. A fine platinum needle connected with the negative pole is introduced alongside the vein, the anode is in the hand of the patient. Extensive eschars should be guarded against.

#### ACNE NECROTICA.—

(35) Hydrarg. Sulph. Rubri. 0.60 (10 grn.)  
 Sulphur. Sublimati.....15. (½ oz.)  
 Olei Bergamottæ.Gtts. xvi. (16 drops)  
 Vaselinei Flavii, ad.....60. (2 oz.)  
 (Lassar's Cinnabar salve.)

#### ACNE SEBACEA.—

(36) Bismuthi Subgallatis..... 2. (30 grn.)  
 Zinci Oxidi..... 4. (1 dr.)  
 Talci Pulv..... 8. (2 dr.)  
 Adipis Lanæ.....10. (2½ dr.)  
 Vaselinei, ad.....30. (1 oz.)

Apply in the evening.

ACTINOMYCOSIS.—If the diseased parts may be radically removed by surgical treatment, it may be resorted to, otherwise not. The best results by internal treatment are from potassium iodide.

(37) Potassii Iodidi..... 6. (1½ dr.)  
 Aquæ Menth. Pip.....180. (6 oz.)  
 Tablespoonful three times a day.

#### ADDISONII MORBUS (Addison's Disease).

—In early stages the hygienic and dietetic conditions should be improved. Patient, if possible, removed to good climate. Internally, antitubercular treatment: creosote, guaiacol preparations (form. 38), nuclein, and arsenic. Lately N. L. Davis, of Chicago, has obtained good results from a combination of potassium tartrate, iron, and digitalis. Patients should be advised to rest mentally, avoid exciting situations, live in open air as much as possible, evade bodily exertions, and live on best, digestible food. Suprarenal extract per os or hypodermically has been tried sometimes with good results, but reports are yet too vague to form a definite opinion.

(38) Thiocoli.....0.5 (8 grn.)  
 Dr. tal. dos. No. xx.

In the beginning one powder four times a day. If patient has taken a daily dose of 2 Gm. (30 grn.) for a week, the remedy may be increased so that 3 or 4 Gm. (45 to 60 grn.) a day are taken.

Other creosote and guaiacol preparations may also be tried: Guaiacol carbonate, guaiacol valerianate, etc. See Tuberculosis.

Lately the suprarenal capsules have been removed with very excellent result. One case is reported of a retroperitoneal tuberculous tumor where the extirpation led to restitutio ad integrum.

[TO BE CONTINUED]

## EXPECTANT TREATMENT<sup>1</sup>

By A. Jacobi, M.D., LL.D., of New York

WHEN fifty years ago I graduated in medicine, Samuel Hahnemann had been dead only eight years. His principal influence on therapeutics was not attained by his rejection of blood-letting, or by his *similia similibus* theory, but by his potential dosing, by which he pretended to prove that a drug would exhibit its remedial power only when no trace of it could even be found in the medicine a patient was furnished. In this way it was demonstrated, not so much by him as in spite of him, that the sick might recover without medicine. At the same time, based upon the brilliant achievements of Broussais and the whole French medicine of the first forty years of this century, the Vienna School, under Rokitansky, confined its research and its teaching to pathologic anatomy and diagnosis. For in the opinion of Rokitansky, medical science was limited to dead-house studies, and the greatest Vienna clinician, Skoda, pronounced the axiom that a disease could be diagnosed, defined, and comprehended, but there were no means to cure it. At the same time, to give a single instance only, Dietl treated 750 patients suffering from pneumonia without venesection and drugs, with a mortality of only 69, that is, less than 10 per cent., and thereby proved that the alleged results of what was called homeopathy in those times were fallacies. He also confirmed the existence of what Hippocrates and hundreds of his followers knew as *vis medicatrix naturæ*; that is, the inherent tendency of many diseases, when not interfered with, to terminate in recovery. Even Wunderlich, of Leipzig, in his first period proclaimed that medicine should be science but not art. All this was proclaimed in spite of the teachings of one of the members of the Vienna circle, Hebra, who demonstrated daily that many local diseases hitherto considered incurable, could be cured by, and absolutely required, local treatment.

That nihilism was based on the harm which was constantly done by the polypharmacy of former practices, and the nastiness of their theriacs and other compounds, and partly on the lack of knowledge of reliable medicines and of their action. No nihilism, however, could after a while withstand the growing influence of pharmacology and of systematic experimentation; but what has been called expectancy has taken its place. Expectancy and expectant treatment mean,

if anything, the method of observing the course of an illness and the indications for treatment, with the express understanding that treatment with drugs should be avoided except under the most urgent necessity recognizable even to the average observer.

The somewhat fragmentary remarks I shall make are written for the purpose of justifying treatment, and particularly *medicinal treatment*, to a greater extent than writers appear anxious to permit—to no greater extent, however, than far-sighted practitioners justify by their practice. What I shall have to say I want to be understood as a plea for timely and energetic medication and for the suppression of the very term of expectancy as needless and misleading.

Expectancy in treatment has its well-defined causes:

(1) Reliance on Nature. By all means rely on her, but do not forget that you and your tools and your remedies are also part of Nature. The reliance on the power of Nature in contradistinction to the effort of man's doing, is one of the axioms due to a trinity of modesty, ignorance and laziness. *Natura sanat, medicus curat* is on everybody's lips, medical man's and layman's, the latter's mainly when in health he snubs and ridicules the doctor, while he sends for him in hot haste when falling sick. What the doctor is credited with, perhaps, is that he takes care of the patient, and sees to it that Nature may perform its work.

Before a Philadelphia audience, some years ago, the same subject was discussed; a few notes of what was there submitted may be admitted here. Here is an example: "Nature was kind enough to so reduce hemoglobin as to give you an opportunity to render a girl a service by feeding her on iron. Nature saves her by kindly giving her a stomach and viscera and lymph apparatus to digest your iron; that is why it is not you that has anything to do with her recovery. Oh, no. But then, there are other cases of chlorosis where Nature supinely furnished congenitally small arteries and an incurable chlorosis. Most complacently Nature looks on; man, however—that is you—is blamed for not making progress against impossibilities. You think you heal a man poisoned by plasmodia by giving him quinine, arsenic or ergot; again a mistake, for it is Nature that raises cinchona trees and furnishes digestion; maybe quite often for that reason Nature is credited with the good result, and the patient feels justified in not paying the doctor either thanks or debts. You think you save a man by cutting down on an appendicitis or a

<sup>1</sup> Written for the Medical Society of the State of New York, 1901. *Amer. Med.*, Aug. 10 and 17, 1901.

liver abscess. Far from it; you are only the scavenger, but Nature forms exudations and adhesions. You keep skin and table and tools aseptic, and think you did a praiseworthy thing in the way of prevention. What of it? Nature permitted man to invent soap and sublimate and created a healthy cell proliferation. You find a man in the gutter with a sunstroke, kindly donated by maternal Nature; you work over him for hours with ice and stimulants and friction; no thanks to you, it is 'Nature' that empties his cerebral blood-vessels, eliminates toxins, and restores him. You are expected to and believe you heal a fracture; that is what you cannot do, Nature does it. Can you make new cells? Can you form callus? What you can accomplish is to adapt the ends of the bones and to appear as defendant in a suit for malpractice." You say all this is farcical? So it is, but the absurdity is not mine. If there be anything insipid in man's so-called reasoning, it is this unmeaning fighting about words, this wisecrack talk about the relations of "Nature" and doctor.

Nature does not kill and does not cure. If there were consciousness in her she would feel indifferent about what she is, viz., mere evolution. With her sunshine she grows harvests and sunstrokes; her moonshine favors lovers and burglars alike; her rain feeds men and drowns them; her wind fertilizes trees and destroys the abodes of a thousand people. Nature is a Mauser bullet; stand in its way and it hits you, dodge and you are saved. It makes no difference to Nature.

In Nature a diphtheria bacillus has its democratic rights and democratic duties like George Washington—that is why it could kill him. She has no predilections and no reasoning; she is simply cause and effect. That is why she can be guided and misguided by you, by engineers; and why the logical mind or the whim of man and the logical necessities of Nature are engaged in a constant strife for superiority. In matters of health and life the medical *homo sapiens* utilizes or combats the doings of Nature. By caring he cures. •

Unfortunately, or fortunately, curing—"curare"—has long lost its literal meaning. Curing is healing.

(2) The practitioner has no clear indications, and resorts to expectant treatment, which is merely no treatment, but an idle looking on, because of his insufficient diagnosis and prognosis.

Ignorance makes cowards. The nature of a disease is learned, besides its symptomatology, by its pathologic anatomy, in the

same way that physiology must be founded on gross and histologic anatomy.

Unless the practitioner is a good diagnostician and observer—for no accurate prognosis is possible without a large number of close observations of the full course of morbid processes—he will never be a good and reliable therapist.

If a man be ignorant and careful and keeps his hands off, he will never do wilful harm to his patient and will let him get well or die undisturbed. But not knowing why and how, he will never benefit him.

Unfortunately for us, most ignorant men are not modest nor cautious; unfortunately also, most of our work is brain work; those without brains, therefore, should not be among us. That is why neither our calculations nor our results can be satisfactory always. Those of us who work with hands and brains equally, or with hands preferably; that is, the operative surgeons—are better off. Their aim is simple, their disease local, their treatment direct, even their diagnosis is confirmed or refuted by their autopsy on the living, and their medicine simple and effective. Iron in their hands is a different weapon from that on which we read tracts and books innumerable without being sure that we understand its action.

(3) The physician is not sure of the action of his medicines; not even specifics, such as quinine, salicylic acid, antisyphilitics, and antitoxins are absolutely certain in their effects. Even emetics and purgatives act differently in different persons; so do narcotics in the mentally sound, particularly, however, in those unsound. Cardiac tonics and stimulants exhibit the same difficulties; their doses cannot be determined by ages or by body weights; the young require very much greater relative doses. Likewise, in the hands of the very best observers, large numbers of cases and observations are required for trustworthy results, and the published records of observers of unequal acumen or experience are far from being reliable guides in different seasons, localities and climates. Not infrequently the difficulties are increased by the condition of the drugs; digitalis, pomegranate, ergot, pilocarpus, are of unequal value in different countries, and are changed by age or manipulation. Tinctures and solid extracts of many herbs change their nature and activity. Adulterations are frequent. That is why the raw material and many preparations of many herbs are unreliable. Even simple bodies like milk-sugar are adulterated, and are far

from serving the purposes they are used for. . . .

Let me give you a few instances only, of expectant treatment of my own. I want to prove the undefined nature of the boundary line of what may be taken for justifiable delay, but is irresolute ignorance, or cowardice.

It was forty years ago—I kept the notes of the case—that a young man complained to me of pain and swelling in his right side above the liver. He was treated expectantly, in the hope that if an abscess would form it would point externally. Nothing was done. One day the abscess broke into the pleural cavity. My patient died, but his case is one of those that, after nearly half a century, turns up in an occasional sleepless night.

It is not the only one of its kind; nor shall I ever be less disturbed by another piece of expectant treatment.

Forty-six years ago I was at least as young, ignorant, irresolute, and helpless as to-day. There was a woman—I know her face to-day, for I have seen it a thousand times since—who died in her first confinement; so did her child, because I killed time and opportunities by bothering with the forceps while I should have saved two lives by Cæsarean section.

[We fully agree with the venerable author in his arraignment of expectant treatment, which is frequently but a synonym of laziness or irresoluteness. But there is, of course, another view to be taken of this matter. For every case lost by "expectant" treatment there are probably two or more cases spoiled by over-zealous meddlesomeness. To wait or to act—that is the oft-repeated question in medicine. Unfortunately, no text-book and no paper can give us a dogmatic answer.—EDITOR.]

Having laid myself open to your criticism, I am egotistic enough now to speak of the expectant mistakes you are making, or many of you, or a very few of you.

What someone here present may be doing constantly is as follows:

A snoring mouth-breather is treated expectantly—that is, not at all. No regular nasal irrigations are made that most infants and children should be subjected to—indeed, it is of more importance to wash the dirty little nose inside than outside. Big adenoids are not removed, large tonsils are not resected.

What you by your "expectant treatment" cause and are responsible for is, at least, insufficient aeration, pallor, defective development of the chest, and chronic indigestion with its life-long results, as also the con-

stant danger of coccus or bacillus invasions. Microbes may be counted by the millions and rendered harmless when merely deposited on the mucous membranes of either nose or pharynx, as long as the epithelia are in a healthy condition; but the undisturbed presence of catarrh, adenoids or chronic pharyngitis, which invite or facilitate microbic invasion, is a direct *causa proxima* for tuberculosis, diphtheria, rheumatism, and meningitis.

Suppose you saw a child in a clean, healthy house and family, with slight pharyngitis, perhaps only on one side. You know that when a pharyngitis is found on one side exclusively that can be the result only, either of a local infection or a trauma. You know that; the parents and children do not. Still the child appears to be well, with little or no rise of temperature. The doctor is apt to say that he hopes it is nothing, and as that fully agrees with the hopes of the mother, the latter authority thinks well of the doctor because he is of her own so-called thinking. Twelve or twenty-four hours later he is told that there are white spots in the throat, and soon he knows that he has lost the same number of hours. Though the case may not be one of bacillus diphtheriæ, which you cannot learn until six or ten more hours have passed by, but of the coccus variety, the latter, though benevolently neglected by our conservative boards of health, are infectious and contagious and quite often the source of great danger.

Instead of giving an otherwise innocent dose of  $\frac{1}{2}$  or 1 milligram of corrosive sublimate in a teaspoonful of water every hour or half hour, and preventing the full development of the microbic intoxication, you prefer to make no diagnosis, to approve of a mother's prognosis, and to show your re-door, attributed to "expectant" treatment.

In every attack of diphtheria apparently mild or severe, you have to expect or to fear heart failure—the result of toxins causing parenchymatous degeneration of the muscle; you know it may come, aye, it will come. You treat the baby as if that would never happen. Every death that will occur, unless you have given ample doses, large doses, of an alcoholic beverage—first quality—no fusel oil whiskey, which is a depressing poison—should be laid at your door and attributed to your "expectant treatment."

Why do your cases of pneumonia prove fatal? Some of them—a few only—perish from the paralyzing influence of the infection, many of the accompanying or complicating nephritis, most from heart failure. If the latter be controllable, the responsibil-

ity is ours. We know a lobar pneumonia will seldom terminate its exudative period in a few days, usually in six or seven; the duration of a lobular pneumonia cannot be calculated or estimated, and though it does not kill the first day or two, its mortality is greater.

In both we know that from day to day inanition must grow, the heart becomes feebler, failure be more imminent, and death more sure. Expectant treatment waits until these symptoms, which you are sure are preparing, really come along. When your enemy is inside, you try to close the door behind him and begin your race with death when it is too late. Then, when there is no longer a circulation, you hope in vain for the absorption of your stimulants, either in the stomach or the rectum or the subcutaneous tissue—strychnine, ether, camphor, hot injections, whiskey—in vain.

The post-mortem verdicts may vary—I know of what I speak. "The doctors did everything they could." "When they saw the baby was dying they stood by us to the last." "We called a consultant, who knew no more than the rest, for, indeed, the darling died almost as soon as he came."

The facts of the case are these: That many a case of pneumonia dies in spite of your best directed efforts, but many more of your expectancy. You have no right to expect your case to proceed differently from or better than others. From day to day the heart must and will lose strength; *when* this persistent loss will terminate, you do not know; it is your duty to prevent what, without your interference, will certainly happen. Begin your stimulation (which at first should not be alcoholic) coupled with judicious feeding and care of the digestion, at an early period of the illness, and do not forget one—shall I say *the*?—principal object in view.

Listen, if you please. To have died is no calamity to the dead; mourning for the dead may be an easy matter to many; to many, however, that remain behind, it is a canker that grows in their hearts forever. Still, the greatest calamity of all is long invalidism; much of this may be avoided by attending to the heart at once. Those of us who for the last fifteen or twenty years have followed the studies connected with the myocardium, are aware of the many dangers, shortening or embittering existence, that are wrought by pathologic changes of the heart muscle, formerly not noticed or not appreciated.

Permit me to quote a few lines from a former paper<sup>1</sup>: "Should medication begin

when collapse is setting in, or has occurred? This systematic procrastination is parallel to giving nourishment when inanition is complete, and not before. When the donkey of the gospel disappears in a ditch on Sunday, make haste to pull him out on Monday. Allow the child to drown in your well, and be sure to cover it up—the well, I mean—on the day of the funeral. Build earthworks quickly when the enemy is in your camp. That is the same theory and practice according to which antitoxin is injected on the fifth day instead of the first, alcohol is refused in sepsis, digitalis in full doses in dilation and weakening of the heart, ice and opium in peritonitis, morphine in alcoholic delirium, or venesection in acute overdistention of the right ventricle."

Extend your consistency in a mistaken course of acting, or, rather, abstaining from action, and you are no longer within the domain of art based on science, but approach the dangerous border line of the Christian Science criminality.

To those measures which are required to cover vital indications, I do not even allude. I do not choose to suppose that the attempts at saving life in accidents could ever be omitted. To that class, like the cutting of the rope around the neck of a suspended person, belong tracheotomy, or intubation in cases of suffocation from internal causes; artificial respiration by mechanical means and electrization of the phrenic nerve, transfusions, and salt-water infusions; also the administration of antidotes to poisons, also the subcutaneous dosing with stimulants.

Next in order are operations which should be understood and practised by every practitioner: besides tracheotomy and intubation, paracentesis in all cases of pleural, abdominal, cerebrospinal, and intradural effusions; herniotomy and operations for the relief of immediate dangers occasioned by osteomyelitis and neoplasms. In all of such cases the indication may be so urgent that the question is no longer one of the treatment of a disease, but the immediate saving of an endangered life.

There are other indications almost equally urgent. Prevent chronicity and sequels of a disease by timely interference, and by shortening its course. Though whooping-cough is a self-limited disease, it should be mitigated or cut short, for every day of its duration brings with it the possibility of hemorrhage, broncho-pneumonia, and possibly of tuberculosis.

Avoid amyloid degeneration by attending to abscesses and necroses; the relapses of

<sup>1</sup> *Phila. Med. Jour.*, Dec. 17, 1898.



malarial fevers by giving quinine after the disappearance of the attacks, for a month or two in lengthening intervals. Wherever rheumatic polyarthritis has once existed, with or without endocarditis, see to it that your patient may never be without doses of salicylates on hand, which are to be taken as soon as the slightest pain will have reappeared. By resorting to such measures you will have ample reason to rejoice over many cardiac diseases avoided and deaths averted. Take advantage of the quiescence of the appendix and save the person's life by means of an operation, the time for which you can select, and the prognosis of which, when thus performed, is almost certain to be of the best; instead of standing expectantly by and looking forward to an acute attack that will take him off, operation or no operation.

I am aware that I have not given you anything new, no new clue to diagnosis, no new microbe, no new drug. But I thought I might lay before the young men among you some of the lessons a long life taught me and impressed upon me. During these fifty years there were few days in which I was not called upon either to cure or to prevent, the performance of which duties is frequently invisible and as unpretentious as it may be made useful.

These lessons are not exclusively my own. They were conveyed by and compared with what I could learn from old and young. In my contact with the former I learned what to do and not to do; the latter have often impressed me with their enthusiasm and incited mutual criticism. As I was ever of the opinion that I had a right to claim as much youth and ignorance as they cheerfully displayed, I was always ready to be taught and corrected, and could afford to do so because I need not give up the direction given my life by the compass controlling modern medicine. The impetus which gave medicine its biologic character dates from the first of my medical studies. That character appeared at first to lead our path away from the goal of all medicine; viz., the prevention and cure of disease, and improvement of the mental and physical condition of man and mankind; but soon proved the correctness of Benjamin Franklin's saying that no science was good for anything unless proved beneficent to mankind. In that sense every progress in the science of medicine contributed to the art of healing and aided in helping to create the era of therapy in which we now live. To benefit a few among you whose professional career may not yet have attained or firmly planted its aim or ideal,

I wrote these few pages both as a review and as a platform. That platform should be:

In order to obtain indications for treatment, make a diagnosis. That art is becoming both more accessible and, through honest and hard work, more easy with the aid of modern methods. Remember that most diseases have, indeed, a tendency to spontaneous recovery, but also that recovery is not always complete and that invalidism should not be invited through neglect of treatment. Complications are possible as long as an illness lasts, and with every day cut short, the dangers of an otherwise typical disease are diminished.

The experience of old men in the profession who claim they employ less drugs with advancing years, means sometimes either an inability to master new methods of diagnosis, or the knowledge of new remedies. There is no one treatment for a disease adapted to every patient. There is no such thing as a uniform treatment for pneumonia, or for typhoid fever, or, even in spite of antitoxins, for diphtheria or tetanus. We should not try to treat the name of an illness, but the patient.

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## THE TREATMENT OF PNEUMONIA<sup>1</sup>

By Leonard Weber, M.D.

NOTWITHSTANDING the fact that pneumonia as a disease has long been known and studied by the profession, it still remains outside of specific treatment. Numberless remedies have in the course of time been proclaimed as infallible, only to be forgotten and superseded by other equally short-lived specifics. Formerly physicians pinned their faith to the vegetable lancets, veratrum viride or aconite, to emetics and expectorants; sodium salicylate enjoyed some reputation in our own time, and at present creosote and serum preparations are on trial. It is not superfluous to warn investigators of the danger lying in hasty generalizations.

Speaking theoretically, the specific remedy in pneumonia will have to be a chemical antitoxin, analogous to Behring's diphtheria serum. Thus far different antipneumococcic serum preparations have been advanced, but none as yet have been found to be satisfactory. Leaving for the present this path untrodden, let us survey our recognized armamentarium. The author has differentiated his clinical material into several groups, as follows:

A. (1) Typical (sthenic) pneumonia in vigorous and healthy individuals.—Thirteen

<sup>1</sup> *Post-Graduate*, xvi, No. 6.

cases of this variety were observed in patients of widely different ages. The management was expectant and symptomatic. Quinine, digitalis, and Dover's powder were administered in small doses to meet the indications. Cardiac stimulants were not employed subcutaneously. Most patients recovered, the fever terminating critically.

(2) Atypical (asthenic) pneumonia in persons of delicate organization.—Here the course was generally protracted. Alcoholic and other stimulants were often called for and great care and constant nursing were necessary. The termination was by lysis, and fatal issues were frequent.

B. (1) Symptomatic pneumonia, complicating infectious fevers: typhoid, the exanthemata, etc.—This variety is usually lobular, although lobar cases are met with. They are all dangerous and the end is too often fatal. The patients are as a rule asthenic, with feeble resisting powers. Vigorous treatment is urgently called for, and besides careful feeding and assiduous nursing, the administration of cardiac remedies, such as camphor with benzoic acid, camphorated oil, strychnine, etc., is often required.

(2) Pneumonia of drunkards.—An extremely fatal form, often resisting all therapeutic efforts. Ammonium carbonate, liquor ammonii anisatus, digitalis, whiskey, and concentrated broths were relied upon as supportive measures, with, however, but limited success.

(3) Pneumonia complicating constitutional diseases: diabetes, nephritis, anemia, malaria, etc.—This variety almost always runs an asthenic course and is hard to treat, especially the pneumonia in diabetics, which is progressive and fatal as a rule.

(4) Pneumonia in the aged, the hemiplegic, etc.—Atypical generally, often lobular; insidious and progressive, though in this form recovery is not infrequent.

C. Septic pneumonia, resulting from aspiration of food, pus, etc., or complicating pyemia, etc.—The management is merely symptomatic.

General Survey of Treatment.—It is a surprising fact that, as shown by a statistical report of the Massachusetts General Hospital, the rate of mortality from pneumonia remains the same, 20 per cent., over a period of eighty years, under all kinds of therapeutic interference. A typical case of pneumonia in the robust needs but little treatment. Small doses of quinine and digitalis, venesection in suitable individuals, morphine and Dover's powder for the pain, together with wet compresses to the affected side, are the usual measures. The exhibition of heroic doses of digitalis, claimed to

be so effectual, has not been tried by the author.

Asthenic pneumonia indicates more vigorous interference. Alcoholic stimulants are appropriate, such as whiskey or port wine,  $\frac{1}{2}$  to 1 oz. every four hours; then strychnine,  $\frac{1}{80}$  to  $\frac{1}{20}$  grn.; nitroglycerin,  $\frac{1}{50}$  grn.; camphorated oil (20 per cent.), up to  $\frac{1}{2}$  dr. All three hypodermically.

In cases of alcoholic pneumonia ammonium carbonate, or liquor ammonii anisatus, 5 to 10 minims every two to five hours; or camphor, 1 to 2 grn., with benzoic acid, 3 to 5 grn. in capsule, every three hours; and strychnine,  $\frac{1}{20}$  grn. hypodermically three to four times daily, were relied upon, together with apomorphine,  $\frac{1}{20}$  grn., for the delirium tremens. Beef-tea, milk, matzoon, somatose, etc., were also given freely.

In septic pneumonia alcoholic stimulants were administered with a free hand, 2 oz. whiskey, etc., every three to four hours. In delayed resolution, turpentine, 10 drops every two hours, is recommended by Prof. Jürgensen.

A measure of life-saving importance in children after all other remedies have failed is, according to the author, the hot mustard bath. When the child is cyanotic and cold, the breathing labored, and the heart failing, nothing will revive the little sufferer like a mustard bath, prepared by adding about a pound of mustard to a baby bathtub of hot water. After keeping the child in the bath for about ten minutes, applying vigorous friction all the while, all symptoms will rapidly improve. The procedure may be repeated every few hours, if necessary. The bath acts as a powerful stimulant by irritating the peripheral nerves, besides relieving the central congestion. It may also be used in adults in similar conditions.

In the course of the discussion following the above paper, Dr. McClintock expressed himself in favor of reviving the old-fashioned method of bleeding pneumonia patients. He discards cold hydrotherapy and alcohol altogether. Dr. Fulton believes that all stimulants are positively harmful and expects that the only rational method, the antitoxin treatment, will be the method of the future. Dr. Aldrich said he was also afraid of stimulating the failing heart. Opium in small doses, counter-irritation, and venesection are the measures he employs. Dr. Taylor, on the other hand, rejected the use of opium in pneumonia and indorsed stimulants. The mustard bath appeals to his theoretical sense, but he prefers to accomplish the same purpose by means of nitroglycerin, which also draws the blood away from the

center. He uses digitalis and alcohol and has seen them do good. Dr. Roberts emphasized the importance of good nutrition and elimination. Skin, kidneys, and bowels should be kept active.

Other speakers advanced their particular remedies, claiming success for aconite, strychnine, quinine, etc.

Coal-tar antipyretics received but scanty notice, and then as a rule only to be condemned.

## TREATMENT OF THE FEBRILE STAGE OF GASTRO-INTESTINAL DISORDERS IN CHILDREN<sup>1</sup>

By W. C. Hollopeter, A.M., M.D.

THE gastro-intestinal mucous membrane represents the largest gland in the human body, and hence the gastro-intestinal troubles as found in children comprise two-thirds of all the disorders of early life—a result of bad feeding, poor hygiene, irregular life, and unstable, undeveloped nervous system. Heredity and environment explain it all. The old terms cholera morbus and cholera infantum have passed away, and now we have the better term, acute milk poisoning or food-intoxication. The slightest unbalancing of the nerve tone permits fermentations and hence we have fever. To understand properly the febrile wave in children we must first appreciate the delicate structure of childhood, the extreme vulnerability of the tissues of early life. Fever is always produced by toxemia, the poisonous substances acting generally directly on the metabolic processes of the tissues, and indirectly by disturbing the heat-regulating nervous mechanism which presides over both the production and loss of heat. During the febrile process there is increased loss of carbonic acid by the lungs and nitrogen by the urine. Fever invariably arrests the digestive secretions, so that with increased destruction and diminished assimilation, there is necessarily a more or less rapid wasting of the tissues and diminution of their functional activity.

The temperature in childhood is easily affected. Febrile conditions are of frequent occurrence. Slight disturbances may cause the temperature to rise above normal, and the elevation may be out of all proportion to the severity of the pathologic process. The author states that he has noted the presence of the slightest foreign body in the intestinal tube—an orange seed or a small piece of tough beef—to provoke convulsions, preceded for at least twenty-four hours by

a temperature hovering around 104°. That the temperature in childhood is easily reduced, however, when unusually high, is also true as a general statement. It is a grave error to estimate lightly the presence of high temperature in children. Those ranging from 103° to 105°, if long maintained, quickly destroy the delicate tissues, and you will have organic trouble to deal with. Frequent observations are necessary to determine the progress of events, yet the tide frequently fluctuates. We must observe at least every three hours, and then we will soon formulate a law of febrile curve as valuable as that found in adults. The greater the care with which little children are examined the more certain it is that we shall detect paradoxical temperature—the unreliable basis on which so much error of judgment is formulated. It is necessary to state that an unstable nervous mechanism in early life, which will run the temperature in the child to from 104° to 105°, would scarcely influence an adult. Fever, however, will not always be produced by toxemia, and the toxins of the intestinal tube are always in evidence. This is especially true of children from two to six years old in warm weather. To overcome the fever quickly, remove the bacteria creating it in the intestinal canal. If the trouble is in the stomach, as well as in the bowels, vomiting will aid us. If the toxins are in the small bowel, then we must resort to intestinal irrigation or to the laxatives. We must take care, of course, not to feed the child for several days with such food as would favor the culture of bacteria. All food taken must be as sterile as possible, to insure a continuance of freedom from fever. A. Jacobi well says: "Milk is food for babies in health; it is food for bacteria during fever."

We must medicate with such drugs as will act as germicides and reduce the fever of fermentation to the lowest point. This is one of the difficulties of pediatric practice. Bismuth is an antiferment, but it is very questionable whether it reaches the whole mechanism. Salol theoretically is indicated, but we cannot exhibit it in sufficiently large doses for it to reach and kill all the bacteria, since in doing so we should poison the tissues. Pathologically we cannot find the lesion after death in those dying from acute gastric catarrh. The nerve influences are very great, as undoubtedly we have a true paralysis. The successful management of the feverish stage in young children can be accomplished by hydrotherapy, by intestinal antiseptics, and by rest. The first step in the management of these cases resolves itself into something like this formula: Given a

<sup>1</sup> *Internat. Med. Mag.*, July, 1901.

case of acute febrile disturbance of gastro-intestinal origin, our first step would be to empty the stomach, if it has not already been accomplished, and then give a slight enema. This, in young children from six months to two years, is accomplished by the use of glycerin and water. The author generally uses about 1 teaspoonful of glycerin to a tablespoonful of warm water, which generally accomplishes the purpose in the most satisfactory way. After that he uses a high enema of 1 quart of tepid water and 1 tablespoonful of sodium bicarbonate. This is generally given by gravity. The child's buttocks are elevated at least to 4 inches higher than the shoulders. It is immaterial whether it is on the right or left side or on the back, but by means of a fountain syringe holding 2 quarts and with the bag of the syringe 1 to 2 feet above the buttocks, the contents are slowly allowed to enter by gravity into the intestinal canal. The author has a decided preference for this alkaline irrigation. Apparently it is not as widely known as it should be, but in his hands it has been a very satisfactory method of emptying out any scybalous or fermentative masses that may be found high up in the intestinal tube. The first impact of water, of course, dilates the rectum, straightens out the sigmoid flexure, and generally induces peristalsis, and by the time that one-half of the contents of the bag have been used, a peristaltic wave will have been induced that will serve to dislodge any foreign fermenting masses that may have been feeding the fever.

This alkaline irrigation is valuable from another standpoint. Soda solution brought in contact with the inflamed and acid secretion of the intestinal mucous membrane neutralizes the pathologic changes going on in the tissues of the young child. In addition to that, it acts as a sedative, cooling and quieting down the tenesmus which invariably follows an acid discharge or fermentative diarrhea.

After the bowels have been thoroughly irrigated in this way, his plan is to follow up with broken doses of calomel,  $\frac{1}{2}$  grain with sodium bicarbonate and sugar of milk, until the characteristic stool is found, and this is then supplemented by a dose of castor oil. The method by which he administers this to children under six years of age is to put 1 to 2 drams of castor oil in a teacup, pour it full of boiling water, add a few drops of extract of vanilla to flavor it and disguise the odor and taste of the oil, and when it is cool enough, there appears a large floating island of oil on top, which is readily and gladly taken by the child.

Bathing of children suffering from this

condition requires care. Children who are suffering from excessive peristalsis should not be handled unduly. After the initial bath at  $95^{\circ}$ , lasting for at least five or eight minutes, and cooled down until the temperature reaches  $90^{\circ}$ , place them in a comfortable bed with a light sheet and a counterpane over them, and for the next twenty-four hours let them be as little disturbed as possible. Temperature changes from that initial bath can be controlled by the ice-bag; an ice-bag to the child's head, and an ice-bag or bottle under each arm, and under each knee, constitute a very convenient and efficient method of combating temperature changes in children suffering from active diarrhea, without handling. The evening sponge bath of alcohol is refreshing and agreeable. The medication after the first twenty-four hours of calomel, followed by the oil, would be a prescription of this kind: Bismuth subnitrate, 2 grn.; salol,  $\frac{1}{2}$  grn.; aromatic powder,  $\frac{1}{2}$  grn.; sugar of milk, 1 grn. This may be given, dry on the tongue, every two hours or with every movement.

Having thoroughly sterilized the gastro-intestinal tract and instituted this method of treatment, the next step to be observed will be the feeding. The most satisfactory nutrition in the presence of acute intestinal trouble will be the complete withdrawal of solids and every form of milk food. Albumen water ranks first in importance. This is administered preferably cold in young children, in the proportion of the white of an egg to a pint of water containing 1 ounce of cracked ice. This shaken very thoroughly renders admissible the albumen, distributing it equally throughout the bulk of water. It may be administered in quantities of from 2 to 4 ounces every two to four hours, according to the age and condition of the child. Albumen water itself is generally taken by children at night without any objection, but in the daytime they generally have some criticism to make as to its taste by reason of its unattractive appearance, and in this case the author resorts to some harmless flavor, such as vanilla or the slice of an orange or lemon floating in it, which makes it very suggestive, to young and thirsty children, of lemonade, and generally induces them greedily to partake of it.

Another form of nutrition, to tide over the acute attack, is toast-water or gum-water, the preparation of both of which is well-known to the profession, but unfortunately too frequently neglected in the little details in the management of a sick child. It has been the author's habit never to return to any form of solid food or meat-juice until the temperature has been normal for at least

four or five days. It has been a matter of intense interest to him to notice the frequent development of fever by the too early commencement of the old-fashioned method of administering beef-juice and beef-tea. Beef-tea, as is often seen in typhoid fever, has been the medium of the recultivation of intestinal bacteria and the re-establishment of the acute symptoms generally in a most violent form. If, after forty-eight hours of the treatment by the bismuth and salol mixture, we have still considerable peristalsis, a very satisfactory procedure is the employment of  $\frac{1}{2}$  to 1 ounce of starch, well boiled and of the consistency of good cream, by having it very carefully placed in the rectum, where it acts as a poultice and a local sedative to the irritated and susceptible membrane of the rectum. In children who have been greatly debilitated at the end of one week, and when some form of stimulation is necessary, he generally commences with the exhibition of a little iced brandy, but usually the stimulation found in the gum-water and toast-water is sufficient to tide over all the depressing influences of an attack. In children who have been debilitated by frequent intestinal disturbances and whose condition has been made alarming by the acute exacerbations, the author finds that digestion and assimilation are almost lost, and not only the digestive powers, but the functional activity of the kidneys has been almost destroyed. It is exceedingly important to notice that the commencement of convalescence is generally indicated by a greater activity of the kidneys. When the kidneys have lost their power of response and the child's digestive condition has become alarming, he has been very much gratified by borrowing the idea so frequently acted upon by the gynecologic surgeons, and that is resorting to hypodermoclysis. The introduction of the normal saline solution under the skin often starts up the functional activity of the whole organism of the exhausted young child. This generally furnishes the tissues with sufficient pabulum to start the cells into activity once more, and is very frequently the commencement of the return of the child to its usual health. Not until the digestion has been regained and there has been a quieting down of the peristaltic wave can we commence to increase the nourishment.

In the management of the febrile stage of gastro-intestinal disorders of young children, the keynote is the absolute cleansing of the gastro-intestinal canal of all bacteria and material that generates bacteria; the administration of sterile food; the combating of tissue-waste, absolute quietude, and rigorous attention to the smaller details.

#### HAND-SPRAYING IN VAGINAL DISEASES

Prof. James C. Wood<sup>1</sup> considers hand-spraying, as originally recommended by Skene, very efficacious in the treatment of vaginal diseases. He believes that by means of the atomizer medicaments can be forced more deeply into the tissues than when simply applied on applicators.

In leucorrhea, whether it be due to gonorrhea or other causes, he sprays the vaginal walls through a fenestrated speculum with a 50-per-cent. solution of peroxide of hydrogen, which is wiped away, so that the parts are left clean and blanched. This is followed by an antiseptic spray, as follows:

Boric Acid.....	4	grn.
Thymol.....	$\frac{1}{16}$	grn.
Sodium Borate.....	1	grn.
Sodium Bicarbonate.....	$\frac{1}{2}$	grn.
Oil Pine Tar.....	$\frac{1}{8}$	min.
Eucalyptol.....	$\frac{1}{10}$	min.
Oil Gaultheria.....	$\frac{1}{10}$	min.
Oil Peppermint.....	$\frac{1}{10}$	min.
Alcohol.....	2	oz.
Glycerin.....	2	oz.

In other instances where the secretion is mucous and tough, Dobell's solution is excellent. If the condition is due to the gonococcus, weak solutions of the new silver salts are employed; and if the urethra is infected the urinary meatus is also carefully sprayed, pressure being made upon the posterior portion of the urethra with the finger so as to prevent the driving of infection into the bladder. After the spraying, the vaginal walls are kept apart by a tampon medicated with a 10-per-cent. glycerin solution of ichthyol, and the patient is instructed to remove the tampon and take a 1:2,000 bichloride douche before again presenting herself for treatment, which ought to be repeated anywhere from twice a week to every day.

In cases where the infection is non-specific and the discharge is purulent, much good can often be produced by applying a 50-per-cent. glycerin solution of *Calendula officinalis*; if profuse and stringy discharge, the aqueous extract of *hydrastis* may be employed in the same way. If there is periuterine tenderness, ichthyol is exceedingly valuable. This point has already been emphasized in the pages of the *Therapeutic Gazette* in an article by Professor Montgomery of the Jefferson Medical College. A tampon wet with the following mixture may be introduced high up into the vagina in these cases:

Ichthyol.....	$1\frac{1}{2}$	dr.
Tincture Iodine.....	1	dr.
Glycerite Hydrastis.....	4	dr.
Carbolic Acid.....	10	drops
Boroglyceride (25%) to make ..	4	oz.

<sup>1</sup> *Therap. Gaz.*, xxv, No. 6.

# Progress in Materia Medica and Drug Therapy

## THERAPEUTIC VALUE OF LECITHIN

Dr. Vacheron<sup>1</sup> has written an important article on lecithin, the following being a review of its therapeutic bearings:

Lecithin plays an essential part in the highest functions of our system. Its chief constituent is phosphorus. It seems rational, therefore, to administer lecithin whenever our tissues lack phosphorus. This is the case in affections leading to an increased elimination of phosphates, as diabetes, phosphaturia, rachitis, etc. Experimental and clinical tests have borne out this hypothesis.

Serous, of Turin, was the first to employ subcutaneous injections of lecithin in man. He experimented on neurasthenic, tuberculous, chlorotic and aged people, with favorable results. Other Italian physicians used lecithin in infantile therapeutics. More recently, Gilbert and Fournier published new researches on the remedy. It may be administered in granules, 3 to 5 grn. daily, or preferably by hypodermic injections, in doses of 2 grn. daily. The therapeutic action is due to the phosphorus which is given off to the tissues, and also to a specific stimulating action on the cellular protoplasm.

In tuberculosis, nervous functional disorders, and all conditions with increased elimination of phosphorus, lecithin is a useful and entirely safe remedy. No untoward effects were observed after its administration.

## ATROPINE IN MORPHINE POISONING

The generally accepted belief in atropine as a reliable antidote to morphine is, according to E. T. Reichert,<sup>2</sup> not justifiable. Though undoubtedly valuable in some cases of morphine poisoning, atropine is often useless or positively harmful. The idea that morphine and atropine are antagonists was founded on inadequate knowledge of their properties. It is quite certain that they are not only not antagonists in many important respects, but are, rather, synergistic. Both are narcotics, both first excite and then depress the respiratory center and the heart, both cause motor depression, produce sleep, and lead to paralysis and convulsions in sufficiently large doses, etc.

The question now arises, is atropine valuable or dangerous in morphine poisoning? The author's answer is this: Atropine may be useful as an antidote in morphine poison-

ing, but only before the third stage, the stage of coma, and even then only in small or moderate dosage. Its value is limited to a possible stimulation of the respiration and circulation, and these beneficial effects may be counteracted by its pernicious action on the general metabolism.

Given in large doses during the second stage, that of depression, it is positively harmful by intensifying the action of the morphine. It has been shown experimentally that a dose of morphine which is not lethal may be made so by the synergistic action of atropine. The startling assertion is made that possibly two-thirds of the deaths from opium-poisoning were due to the "antidote."

## GARLIC IN PULMONARY TUBERCULOSIS

Cavazzani<sup>1</sup> reports a series of experiments conducted in the city hospital of Venice, with reference to the action of garlic in consumption. Garlic is cut into small pieces and dried for a short time. It is given in this form in quantities of 60 to 90 grn. in twenty-four hours, in fractional doses and in various ways, in order to combat the distaste most patients manifest for the drug. Over 200 patients were thus treated in addition to the ordinary hygienic and symptomatic treatment. An improvement is said to have taken place in all stages of tuberculosis, especially in the early cases. The sputum becomes mucous in character, the number of bacilli diminishes gradually until they completely disappear; the cough is lessened, the local physical signs disappear, as do the night-sweats and hemoptyses, and there is a marked improvement in the appetite and the general condition.

## IODIC ACID, GALLICIN, AND IODOGALLICIN IN TRACHOMA

Dr. Ichile<sup>2</sup> discusses the therapeutics of these substances in ophthalmology.

Iodic acid is prepared in the form of pencils for cauterizing ulcers, excrescences, and follicles. The irritation produced is transient and does not prevent the patient from following his occupation. The author offers this explanation of the therapeutic action: Iodic acid liberates iodine and hydriodic acid is formed, both destroying the follicles, killing the microbes, and favoring leucocytosis. No scars result from the cauterization. In acute and subacute forms of

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 10.

<sup>2</sup> *Thérap. Monikly*, 1, No. 1.

<sup>1</sup> *Internat. Med. Mag.*, x, No. 6.

<sup>2</sup> *Rev. de Thérap.*, LXVIII, No. 5.

granular conjunctivitis the author employs 5-per-cent. solutions of iodic acid for irrigating the mucous membrane. In the initial period of trachoma he uses instillations of a 3-per-cent. solution. The same are recommended in pannus, torpid infiltrations, and corneal ulcers. In the cicatricial form of trachoma an ointment is preferable, as follows:

Iodic Acid .....	12 grn.
Wool-fat .....	6 dr.
Olive Oil .....	6 dr.

The action of iodic acid may be assisted by the simultaneous internal administration of potassium iodide.

The author has also employed irrigations with a mixture of 6-per-cent. potassium iodide and 5-per-cent. iodic acid solution, with good results. For massaging the palpebral mucous membrane the following salve is useful:

Iodic Acid .....	16 grn.
Sodium Iodide .....	75 grn.
Boric Acid .....	2½ dr.
Vaseline .....	3 oz.

In cases of trachoma complicated with eczema of the sclerotic and cornea, the author tried subcutaneous injections of iodic acid (5-per-cent.).

This proved too painful, however, and iodic acid was replaced by a 10-per-cent. solution of sodium iodide. The general conclusion is that iodic acid is in the conditions mentioned the best drug we possess.

Gallicin is a white powder, readily soluble in hot water. The author has found it to possess valuable antiseptic qualities and employs it in trachoma and eczematous affections of the cornea or conjunctiva. The action is astringent and germicidal. The drug is also useful in corneal ulcers, infiltrations, etc. It is applied in powder form once or twice daily, and causes a transient burning sensation.

Iodogallicin appears as a gray amorphous powder, insoluble in the ordinary menstrua. It possesses antiseptic and desiccating properties, besides acting as a local anesthetic. In trachoma, corneal ulcers, infiltrations, etc., its use is very beneficial. It is applied as a 5-per-cent. ointment, with wool-fat as the vehicle.

[Iodic acid,  $\text{HIO}_3$ , is a colorless solid; appearing in the form of rhombic crystals; it is soluble in water, insoluble in alcohol; for use as a caustic, it is made up in the form of pencils, and is a strong astringent, caustic, and also hemostatic. Gallicin is the methyl ester of gallic acid; appears in the form of needle-shaped crystals; is soluble in water and alcohol. Iodogallicin is chemically closely allied to airoi; it is, namely,

bismuth-oxyiodo-methyl gallol. It is a light, amorphous, grayish powder, insoluble in the ordinary solvents, but gradually decomposed by acids, alkalies, and water.—EDITOR.]

#### TURPENTINE IN PARASITIC SKIN DISEASES

Dr. L. Leven<sup>1</sup> employs applications of oil of turpentine in the treatment of pityriasis versicolor and tinea tonsurans. In the first affection a cotton pledget is soaked in turpentine and vigorously rubbed on the diseased skin. This is done once daily. If the lesions are extensive, only small areas should be thus treated at each sitting.

For the second disease the author recommends the use of compresses soaked in turpentine and applied to the affected areas morning and evening. The good results show themselves in a very short time.

#### THIOCOL IN PULMONARY TUBERCULOSIS

It is at present an established fact, says Dr. W. Stekel,<sup>2</sup> that tuberculosis is curable. Clinical and post-mortem evidence to this fact is not wanting, and Nature's efforts may be assisted by a judicious combination of hygienic, dietetic, and medicinal measures. In recent years the various creosote and guaiacol preparations have found great favor in the treatment of the disease, and many lives have been saved by virtue of their curative properties. These modern therapeutic improvements have, however, found but little application to the disease in childhood. A child can not be prevailed upon to fight against its own stomach, to swallow nauseating drugs, and eat without an appetite. Creosote administration has been attempted, but with very sad results, poisoning and even death having occurred. Neither have the substitutes for creosote, the carbonates of creosote and of guaiacol, found permanent favor in the therapeutics of childhood.

In view of this we must welcome warmly a new creosote compound—an odorless, tasteless powder, called thiocol. Experiments on animals have demonstrated its freedom from irritating properties and the ease with which it is absorbed. Moreover, it is claimed for thiocol that it kills the tubercle bacilli, besides preventing all further progress of the disease. Thiocol is admirably adapted for administration to children. It has been employed in the form of a syrup (10 per cent. with syrup of orange), and excellent results have been reported by different investigators. The author's own ex-

<sup>1</sup> *La Sem. méd.*, xxi, No. 8.

<sup>2</sup> *Centralbl. f. d. gesamm. Therap.*, 1901, No. 5.

perience with thiocol confirms all preceding reports in its favor.

Of course, thiocol given alone will not cure tuberculosis. It must be assisted by hygienic and dietetic measures. Plenty of fresh air is necessary. The child should sleep in a well-ventilated room and should spend most of its time out-of-doors. Bathing is extremely beneficial. We may begin by sponging the child cautiously with cool water, and gradually proceed to cool baths. Another excellent hydrotherapeutic measure is the Priessnitz compress, which has been well said to afford the patient the "moist and warm climate of Madeira." The necessity of frequent change of underwear may also be emphasized.

The great object, however, is to stimulate nutrition, and in this respect thiocol is a most valuable remedy, being not only a specific in tuberculosis, but at the same time an excellent stomachic tonic, which brings about a very marked increase of appetite. This enables us in turn to force nutrition. Only too often the children are poorly nourished, owing to some prejudice of the mother. Besides mild broths, the yolk of an egg or a soft-boiled egg, plenty of butter, and some meat may be given to children who have passed infancy. Fruit and vegetables are also valuable. Alcohol, on the other hand, is best avoided.

The sheet-anchor of the treatment is, however, thiocol, or guaiacol-sulphonate of potassium. To children under two years of age 6 grn. are given daily to begin with. Children between two and six years take 12 grn. and older children 24 grn. daily, in three divided doses, in solution with syrup of orange. After a week the doses may be boldly increased. No unpleasant effects of any kind have ever been noticed. Not only pulmonary tuberculosis, but also tuberculous affections of glands and bones, are amenable to thiocol treatment.

The author closes his report of eight successful cases with an enthusiastic outlook and an invitation to try the remedy in all cases of tuberculosis.

The influence of thiocol has been carefully studied by Maramaldi,<sup>1</sup> who finds that it causes marked amelioration of the symptoms of pulmonary tuberculosis. In cases not too far advanced, temperature is reduced to normal, the cough becomes less severe, the sputa are reduced in quantity, the number of bacilli is diminished, the patient's appetite improves, and there is a gain in weight and strength. While these changes are noticed in the early stages of the disease, they are not obtained in the

stage of cavity formation. Thiocol is given in divided doses, aggregating 1 to 3 Gm. (15 to 45 grn.) daily. Such doses control diarrheal manifestations and night-sweats almost invariably. As an adjuvant to hygienic and dietetic treatment, the drug is highly recommended in the class of cases referred to.

#### TREATMENT OF GLAUCOMA

Prof. Wicherkiewicz<sup>1</sup> states that the following combination has proved highly beneficial in his hands in the treatment of glaucoma:

Eserine Salicylate.....	1/2 grn.
Pilocarpine Hydrochlorate.....	3 grn.
Cocaine Hydrochlorate.....	1 1/2 grn.
Distilled Water.....	3/4 to 2 1/2 dr.

This solution diminishes the intra-ocular tension to a great extent, while the mydriatic action of the cocaine is counteracted by the eserine and pilocarpine. The author has seen great benefit follow the instillation of these eye-drops, once in twenty-four hours, at bedtime, in cases of chronic glaucoma, where iridectomies and sclerectomies had no effect in stopping the progress of the disease. There was marked improvement in vision as well as in the eye structures.

#### TREATMENT OF BLENNORRHEA AND DIPHTHERIA OF THE CONJUNCTIVA

Blennorrhea in the new-born often runs a very mild course, and subsides under the simplest treatment. Not always, however, is this the case, and quite a number of children are allowed to go on to total blindness under indifferent therapeutic management. Prof. H. Schmidt-Rimpler,<sup>2</sup> the distinguished ophthalmologist, is therefore in favor of Credé's prophylactic method; he advises the employment of the 2-per-cent. silver-nitrate solution, but *only* in suspicious cases, since the silver nitrate has been known to produce intense inflammation. As to etiology, it is an error to consider the gonococcus as the only cause. Many cases of blennorrhea are due to other micro-organisms, as staphylococci, streptococci, diphtheria bacilli, etc.

Severe cases of blennorrhea require a correspondingly vigorous treatment. The author recommends cold applications to the eyes, and the use of silver nitrate once daily. The lids must be everted and touched with a 2-per-cent. solution, which is immediately neutralized by a salt solution. Instead of silver nitrate, a 10-per-cent. solution of protargol may be used.

<sup>1</sup> *Med. News*, LXXVIII, No. 25.

<sup>2</sup> *Ophthalm. Klinik*, 1901, No. 8.

<sup>2</sup> *Klin.-therap. Woch.*, VIII, No. 9.



In adults the cause is the gonococcus, without exception, and the treatment detailed above gives unsatisfactory results. Better effects are observed by employing weak solutions of potassium permanganate for irrigating the eyes. The author uses solutions of 1:10,000 or 1:5,000, and freely irrigates three or four times daily. Besides this, atropine is introduced into the eyes and cold compresses ordered. The results are very satisfactory. The same irrigation treatment has been tried by the author in a case of diphtheritic blennorrhea with some success. He also speaks highly of antitoxin injections in such cases.

#### SUCRAMINE<sup>1</sup>

Under this name a new sweetener is being exploited in France. On analysis it has been found to be simply the ammonium salt of saccharin: Ammonium benzoyl-sulphonic imide.

#### IODIPIN AS A DIAGNOSTIC AGENT

Dr. Franz Werner<sup>2</sup> has written a most exhaustive and elaborate paper on the above subject. The results he therein details have been obtained after an immense amount of labor and original research and investigation.

To understand the rationale of the use of iodipin we must bear in mind that the acid secretions do not affect it, but that it is split up by the alkaline secretions of the intestines, by the bile and pancreatic juice. Though, as a rule, iodipin is not affected by the saliva, nor absorbed by the esophagus, still to avoid any possibility of error, it is best to administer it in capsules (when we do so for diagnostic purposes). When the gastric motility and secretions of both stomach and intestines are normal, the iodine appears in the saliva in about forty-five minutes at the most (average, twenty-seven minutes). If considerably more than forty-five minutes elapse before it appears in the saliva, we have a right to diagnose insufficient gastric motor power, and this may be due to catarrh of the stomach, congestion superinduced by heart-disease, fever, etc. In imperfect closure or incontinence of the pylorus—caused by cancer or ulcer—iodine will be demonstrable in the saliva much sooner, namely in ten to twenty minutes after the ingestion of the iodipin. If there be a lack or an insufficient amount of bile or pancreatic juice in the duodenum, the appearance of iodine in the saliva will be proportionately prolonged, while in cases of

closure of the ductus choledochus communis, iodine will appear only several hours after the administration of iodipin. The appearance of iodine in the saliva will also be considerably delayed in cases of impairment of absorption of the intestinal mucous membrane or mesenteric lymph system. Such impairment may be caused by amyloid disease, tuberculosis, peritonitis, enteritis, or general atrophy. Should iodine be administered to an ascitic patient, and the tapped ascitic fluid be found to contain iodine, then we would be justified in diagnosing chylous ascites. An absolute absence of iodine in the saliva and urine after the ingestion of iodipin, would point towards closure of the thoracic duct. As in ascites, so in chyluria, iodine-fat will be present in the urine. Five extensive tables summarize the results of the elaborate experiments conducted with 102 cases in the medical clinic of the University of Vienna.

According to Dr. Lucibelli,<sup>1</sup> iodipin offers a reliable means of testing the motor functions of the stomach, since the drug is not changed until the intestine is reached.

In normal individuals the urine shows iodine about one hour and ten minutes after the ingestion of iodipin. Now, considering that the drug is split up by the bile and pancreatic juice, we may draw certain diagnostic conclusions whenever the iodine reaction appears later than normally in the urine. Thus, by excluding an affection of the stomach or liver, we must attribute the deviation to disease of the pancreas, etc.

#### VERATRUM VIRIDE IN PNEUMONIA

The fundamental law of action and reaction is often responsible for the revival of abandoned methods and remedies. Thus the time seems to have arrived for veratrum viride to participate in a resurrection. Its therapeutic value in toxemic conditions has lately been brought to our notice by Dr. Isham.

Now Dr. Robert C. Atkinson<sup>2</sup> speaks with conviction of its efficiency in pneumonia. He has used it for a period of many years and found it a superior remedy. Under its administration the distressing symptoms of pneumonia, such as cough and pain, are greatly relieved, the pulse softened and slowed, and the period of illness much shortened. No untoward effects on the heart were ever observed by the author. The preparation employed was Norwood's tincture.

<sup>1</sup> *Nouv. Remèdes*, July 24, 1901.

<sup>2</sup> *Wiener klin. Woch.*, XIV, No. 7.

<sup>1</sup> *Nuova Rivista Clin.-therap.*, 1900, No. 4.

<sup>2</sup> *St. Louis Med. Rev.*, XLIII, No. 20.

**TREATMENT OF APPENDICITIS**

Prof. Bourget<sup>1</sup> makes a general survey of the treatment of appendicitis (perityphlitis) before the surgical era. Up to 1885 this affection, belonging entirely to the domain of internal medicine, was treated by means of leeches, poultices, purgatives, and ointments. The disease was but little talked of until the surgeons demonstrated that appendicular inflammation justifies operative interference. Since 1885 every tumor or resistance in the ileocecal region, with fever and a condition of general infection, was considered as a case demanding immediate operation. All medical treatment was condemned. This rule reigned supreme for ten or twelve years, notwithstanding occasional opposition from recognized authorities. But while the operative technique almost arrived at perfection, the knowledge of the pathology of appendicitis remained limited. Nor was the problem of general therapeutics solved satisfactorily. Cold applications were supposed to check the inflammation. Lauder Brunton proved the fallacy of this method by introducing a thermometer into the abdominal cavity of a rabbit and then applying ice-bags to the abdomen; the temperature was seen to mount rapidly instead of fall. Opium undoubtedly has its advantages, but is not free from objections. It favors constipation and fecal stasis, masks the symptoms, etc.

The surgeon, as is well known, rejects all internal medication. He banishes all purgatives, even the gentle castor oil, as favoring perforation. He laughs at leeching, ridicules poultices, and despises ointments. Enemas are even more strictly forbidden than purgatives. His whole attention is given to the improvement of operative technique, and he believes in immediate interference. This operative enthusiasm is, however, subsiding. Gradually a temporizing policy is gaining ground. It was proposed to evacuate the acute abscess and postpone the removal of the appendix until the symptoms had subsided. Then it was advised to postpone the operation until pulse and temperature became normal, which is the case at the end of several days. The interval was soon lengthened to eight, ten and twelve days, and finally the plan was adopted of waiting until the acute attack is over. From five to eight or ten weeks is the usual time for convalescence to become complete. Of course severe cases demand earlier intervention, and, generally speaking, the principle of individualization is always to be respected. More and more

the surgical extreme of treatment is losing ground, and again medical procedures are gaining admittance.

The value of prophylactic measures cannot be doubted, to begin with. We can protect ourselves from appendicitis by attending to all digestive disturbances, by correcting hyperacidity, counteracting constipation, avoiding hasty eating, ice-cold drinks, highly seasoned foods, etc. Moderate exercise, proper rest, and various other hygienic measures should be enforced.

Once established, appendicitis calls for the following treatment:

The patient is put on a plain diet, and  $\frac{1}{2}$  oz. of castor oil, with 15 grn. of salacetol (a salicylic acid derivative) is administered daily. Lavage of the stomach and of the lower bowel is productive of good. A quart of water containing some antiseptic in solution may be introduced into the rectum. From 3 to 8 oz. of olive oil may be injected with this enema. The author uses ichthyol for the above enema, in the strength of 4:1000. The first two enemas ought to be expelled entirely soon after being injected; later a small quantity should be retained. The enemata may be given morning and evening. During the interval flaxseed poultices are to be applied over the right iliac region, and if the tumor is large five to six leeches are indicated. After two to three days of this treatment the castor oil is replaced by salines:

Sodium Bicarbonate.....	1 dr.
Sodium Phosphate.....	1 dr.
Sodium Sulphate.....	1 dr.
Water.....	1 quart

Five ounces three to four times daily.

Good results were obtained by the author, who used the method described above in private and hospital practice. He thinks that by following his directions a goodly number of patients would escape the surgeon's knife. The duration of this treatment varied from two to ten days.

**A CASE OF FORMALDEHYDE POISONING**

Dr. James Wellborn reports a case in which a woman aged fifty took a dram of formaldehyde in about half an ounce of water. The writer saw the patient fifteen minutes after, the symptoms being as follows: Anxious and distressed expression, marked dyspnea and excruciating pain in epigastrium. The radial pulse was not perceptible. The stomach was at once washed thoroughly. The pulse did not improve, even after  $\frac{1}{40}$ -grn. doses of strychnine, and the author then gave digitalin,  $\frac{1}{100}$  grn., and nitroglycerin,  $\frac{1}{100}$  grn.,

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 9.

with good results. Aromatic spirit of ammonia and whiskey were also given and seemed to benefit the respiration. The patient remained comatose for about two hours; at times she was restless, trying to get out of bed. In a few hours the symptoms subsided, and in three to four days the patient was perfectly well. [The rationale of the antidotal action of ammonia in formaldehyde poisoning was fully explained in the March issue of the ARCHIVES, page 108.]

#### AN EFFECTIVE HEMOSTATIC

Dr. Dietrich Thyen<sup>1</sup> has had excellent results from stypticin as a hemostatic, and much prefers it to the iron preparations. He reports a case of abscess of the axilla in a child, in which the incision was followed by profuse parenchymatous bleeding, impossible to control. An application of stypticin cotton brought the hemorrhage to a standstill in a very short time.

Stypticin has been found an efficient hemostatic in uterine hemorrhage. C. A. Herzfeld<sup>2</sup> prefers it to hydrastis, because the latter must be given in large doses and for long periods. Stypticin is efficient in doses of 1 grn. It may be given (in tablet form) in profuse menstruation, if the bleeding is not due to inflammation or to growths of the uterus. The author prescribes 3 to 4 tablets of  $\frac{3}{4}$  grn. each daily, beginning four days before the expected flow and continuing four days after menstruation had set in, thus administering the remedy over a period of eight days.

#### METHYLENE-BLUE INJECTIONS IN PLEURISY WITH EFFUSION

Dr. Chas. H. Lewis<sup>3</sup> details his method of treating exudative pleurisy by injections of methylene blue. The ideal treatment for the affection would be aspiration, if the fluid did not have a tendency to return. Our medical therapeutic resources have all proved to be very unreliable, and all the diuretics, cathartics, diaphoretics, and counter-irritants have been pronounced by the highest authorities to be worse than useless. The great desideratum, therefore, is to find a means of preventing the reaccumulation of the fluid after aspiration.

It occurred to the author that some substance might be introduced into the pleural cavity which would cause a deposit of fibrin on the serous surfaces and insure adhesion of the walls after aspiration (thus preventing a return of the effusion). After ex-

perimenting with various substances, as iodine, potassium permanganate, etc., the author found the desired remedy in methylene blue (medicinal). This substance is antiseptic, anodyne, and possesses diuretic qualities. Knowing from the researches of others that pleural adhesions can be produced by irritant injections into the pleural sac, the author has tried methylene blue for this purpose and found it very satisfactory. He proceeds as follows: after aspirating part of the serum from the pleural cavity, methylene blue is added to it and the solution returned into the pleural sac. The serum dissolves methylene blue in the proportion of about 1 in 50 parts. The respiratory movements of the chest insure a uniform mixture of the two serums. The aspiration and the re-injection of the fluid can be effected by means of the Potain aspirator.

This method was employed in twenty-four cases of pleural effusion with very good results. The quantity of methylene blue injected was 5 to 15 grn. Most cases received over 10 grn. Sufficient serum was aspirated to dissolve the chemical, and then returned into the pleural sac. A few hours later the methylene blue could be demonstrated in the urine. The average duration of treatment was fourteen days. The method insures and brings about the desired adhesions.

#### THE VALUE OF VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA

Dr. H. A. Hare<sup>1</sup> addressed a letter to several prominent obstetricians, asking their personal opinion as to the value of veratrum viride in the treatment of puerperal eclampsia. Eight replies were received. Dr. J. Clifton Edgar, professor of obstetrics in Cornell University, is a strong believer in the virtues of the drug. He has used it for the past ten years, both in hospital and private practice; he does not rely upon it alone, but uses it in conjunction with other treatment. The prominent indications in treating puerperal eclampsia are: To control the convulsions, to empty the uterus by some rapid method that will cause as little injury to the patient as possible, and to aid the elimination of toxins. The best means for the immediate control of convulsions is chloroform; next to it in efficiency is veratrum viride. When the pulse is strong and rapid, veratrum viride is the most certain remedy at our command for controlling the spasms, temporarily or even permanently. The drug diminishes the pulse-rate, and con-

<sup>1</sup> *Medico*, July 17, 1901.

<sup>2</sup> *Deutsch. med. Woch.*, XXVII, No. 20.

<sup>3</sup> *Med. News*, LXXVIII, No. 22.

<sup>1</sup> *Therap. Gazette*, Aug. 15, 1901.

vulsions are almost unknown, when the pulse-rate is 60 or under. It also reduces temperature, restores rigidity of the cervix and produces diaphoresis and diuresis. Where the pulse is weak, morphine hypodermically and stimulants may be used instead of veratrum viride. As an initial dose, the author gives 10 to 20 min. of the fluid extract, or injects hypodermically 5 to 10 min. of Norwood's tincture, and repeats the dose every 20 or 30 minutes, until the pulse falls to about 60 beats per minute and remains at 80. He has never seen any toxic effect on the fetus from the use of the drug.

Dr. Richard C. Norris has treated during the past year at least eighty cases of puerperal eclampsia, most of them with veratrum viride (combined with other measures), and became thoroughly convinced of the value of the drug. The cases in which the drug is most useful are those with a full, quick, high-tension pulse, where consciousness returns in the intervals between convulsions, and where the toxins have evidently not yet overwhelmed the patient. When the pulse is feeble and rapid, and the patient profoundly toxic, he has never seen any benefit from veratrum; in fact, such cases require rather circulatory stimulants, and not depressants. For the elimination of the toxins, free purgation with magnesium sulphate and elaterium, and refilling the drained tissues with salt solution, is of the highest importance. The dosage of veratrum viride is important. He once nearly lost a patient by injecting subcutaneously 20 drops of the fluid extract. He now starts with 8 min. of the fluid extract, and repeats in 5-min. doses, being governed by the effect and the indications. To keep the pulse-rate between 70 and 80, he usually has to administer 30 to 60 min. in the twenty-four hours in divided doses. He concludes by saying that he learned to regard veratrum viride in the treatment of puerperal eclampsia as second only to free purgatives with salines.

Prof. Barton Cooke Hirst has used veratrum for the past twelve or thirteen years and has great confidence in its efficacy. He has seen it reduce the pulse to 60 or below in a few minutes, and as long as the pulse remained at that rate, no convulsions would supervene. [This is in accordance with the statement of Edgar]. He usually gives 15 to 20 drops of the fluid extract, hypodermically, as the first dose, and repeats in 5-drop doses, if the pulse increases in rapidity. The chief indication of the drug is in sthenic cases. It takes the place of venesection and is indicated in those cases in which that procedure would do good.

Prof. E. P. Davis has also found veratrum viride very useful in eclampsia, in the same class of cases as the previous observers. He notes another great advantage in veratrum; namely, its power to dilate the cervix. He gives the tincture in doses of ten drops, hypodermically, every hour, until pulse falls below 90, and its tension is decidedly lessened.

Prof. Geo. M. Boyd considers its action doubtful, and if used at all he believes its indication is in sthenic cases only.

Dr. W. R. Wilson places no dependence upon the drug, but he judges from theoretical considerations, and not from practical experience.

Prof. J. W. Williams and Dr. E. Reynolds have had absolutely no experience with the drug in puerperal eclampsia, and therefore cannot pronounce an authoritative opinion. They are opposed to it theoretically. On reviewing the expressions of opinion, it will be seen that the verdict is rather strongly in favor of veratrum viride, because those who favor it do so from personal experience; while those who are not in favor of it, simply say that they have not had any experience with it. Such opinion cannot therefore possess any positive value.

#### ARTIFICIAL IMMUNITY FROM MALARIA

It is now an established fact that certain individuals possess a natural immunity from malaria, while others become immune only after passing through the disease. The latter protection seems to be the more frequent and permanent. The immunity is not transmitted to offspring. These discoveries naturally led to attempts at producing an artificial immunity, but so far no tangible results have been obtained from the various serum preparations. Better success has been achieved in the field of prevention by using chemical remedies, and here quinine and methylene blue are the reliable drugs. The latter has the disadvantage of coloring the urine and the sputum blue. Instead of quinine, Prof. A. Celli<sup>1</sup> has employed euquinine with very satisfactory results. The remedy is much better borne than quinine and can be taken for long periods of time without untoward effects. The average daily preventive quantity is 8 grn. for adults, administered in single doses of 4 grn., during the morning hours. In one of the author's cases immunity was established after eight days of this treatment.

The subject of the experiments took 8 grn. of euquinine for eight days, and was then bitten by an artificially infected

<sup>1</sup> *Centralbl. f. Bacter.*, XXIX, No. 7.

*anophele*; he then continued the euquinine for ten days longer, and remained free from any attacks. Some of the anopheles were examined and were found to be full of malarial parasites. The author also experimented on a large number of peasants living in intensely malarial regions. They took euquinine from one to five months in succession, without any gastric disturbance, tinnitus aurium, or other by-effects. Of the 116 subjects who were taking euquinine prophylactically and who had never had malaria before, 12 became sick, a percentage of 10.34. Those who were not taking euquinine, and who were watched as control-subjects, numbered 271, and of these 171 contracted malaria; a percentage of 63.46.

#### QUININE IN CANCER

Dr. Jaboulay<sup>1</sup> reported a year ago on the good results obtained by the hypodermic use of quinine in malignant tumors. Since then the author discovered that quinine taken by mouth exercises the same beneficial influence. He gives 16 grn. daily, interrupting this medication for two days in a week, to avoid intoxication, giving Fowler's solution during this interval. Vaginal and rectal injections of quinine have also been tried, without success, however. On the other hand, the external application of a 10-per-cent. quinine ointment to cancerous ulcerations is warmly recommended.

#### PALLIATIVE TREATMENT OF UTERINE CANCER

In cases of cancer which are beyond surgical interference, the principal symptom requiring treatment is pain. Our sovereign remedy is, of course, opium, and the patients if they live long enough are bound to become opium-eaters.

Dr. G. R. Leighton<sup>2</sup> reports a case of carcinoma uteri illustrating the advantages of opium treatment. After giving the drug in the form of morphine suppositories and the liquor morphinæ hydrochloridi (B. P.), the author found the tincture of opium to be more effective. Commencing with smaller doses, the amount consumed daily soon represented 8 grn. of opium. The results were very favorable: pain disappeared, sleep became refreshing, and the patient gained in strength. However, the quantities of opium had to be gradually increased, and soon the woman was taking 3 oz. of the tincture daily. Still later the daily amount reached 6 oz. and it is hard to tell what quantities would have been finally con-

sumed had not the patient died on arriving at 12 oz. of tincture of opium, or 400 grn. of opium daily! The drug was well borne and the patient never knew what she was taking. The author advises converting similar patients into "unconscious opium-eaters."

#### SALINE SOLUTION FOR INFUSION

Dr. Cawardine<sup>1</sup> thinks that a solution of common salt is not as useful as one containing the several different salts that are the constituents of normal blood serum. His formula is as follows:

Sodium Chloride.....	14	Gm.
Potassium Chloride.....	0.75	Gm.
Sodium Sulphate.....	6.66	Gm.
Sodium Carbonate.....	0.5	Gm.
Sodium Phosphate.....	0.5	Gm.
Distilled Water.....	256	Gm.

When wanted for use it is sterilized, and sufficient sterilized water is added to make the amount measure 720 Cc.

#### SALT SOLUTION IN OPHTHALMIC PRACTICE

Dr. A. J. Matonssowsky<sup>2</sup> found a 3-per-cent. salt solution to be an efficient substitute for sublimate in subconjunctival injections. Introduced in doses of 5 to 10 drops beneath the conjunctiva after an injection of a 5-per-cent. cocaine solution, the salt solution exercises the same therapeutic influence over keratitis or iritis as mercury bichloride. After two to four injections the headache is relieved, insomnia gives place to sleep, the pupil dilates readily, pus in the anterior chamber is absorbed, and corneal ulcers heal up.

Sodium chloride has the advantage of provoking less irritation and pain than mercury bichloride, besides doing away with the danger of adhesions between conjunctiva and the eyeball.

#### TWO TANNIC ACID DERIVATIVES

Prof. J. B. McGee<sup>3</sup> says that the use of tannic acid internally has been open to the objection of producing an irritating and astringent effect upon the mucous membranes of the throat and stomach, and large doses are frequently followed by distress and nausea. When given for its intestinal action these results modify its power before reaching the portion of the alimentary canal upon which its effect is desired. Quite a number of its derivatives designed to overcome these objections are upon the market, and of these the albuminate of tannin, the first brought forward, has been practically discarded for tannalbin, a form in which the

<sup>1</sup> *La Sem. méd.*, xxi, No. 9.

<sup>2</sup> *Brit. Med. Jour.*, No. 2098.

<sup>3</sup> *Revista Asociacion Med. Farm. de Cuba*, 1, No. 9.

<sup>4</sup> *La Sem. méd.*, xxi, No. 7.

<sup>5</sup> *Cleveland Jour. of Med.*, 1901, p. 300.

albuminate is so modified by heat as to pass unchanged through the stomach into the intestines, where it is decomposed and the astringent action of the tannin is exerted. It is an extremely good intestinal astringent, is readily taken by children, and in sub-acute and chronic cases is a valuable drug. In acute cases after the expulsion of irritating material it, like the other agents of this nature, may be employed.

Tannoform, another tannin derivative, is an intestinal antiseptic as well as an astringent, the products of its decomposition being tannin and formaldehyde. It has been stated that irritation may follow from the liberation of formaldehyde, and hence it is not so generally used internally as the preceding form. As a local application, however, it excels in cases characterized by excessive secretion, as in moist forms of eczema, hyperidrosis, and bromidrosis.

#### CINNAMON IN INFLUENZA

Dr. Joseph Carne Ross<sup>1</sup> considers cinnamon a specific in influenza, if the treatment is commenced early enough. He says that if the cinnamon is administered within about twenty hours from the manifestation of the first symptom, the patient will be able to resume his vocation in three to four days. The earlier treatment is commenced, the earlier will complete convalescence be established. He has used the treatment during the past eight or nine years. At first he used a decoction of cinnamon, but now he uses the drug in tablet form. The treatment must be commenced as early as possible, as a delay of over twenty-four hours renders the treatment inefficacious.

#### BRONCHO-PNEUMONIA IN CHILDHOOD

Dr. E. Ausset<sup>2</sup> recommends the following therapeutic régime in acute broncho-pneumonia of children:

During the febrile period it is important to abstain from doing any possible harm to the patient. Drugs should not be prescribed indiscriminately, but mechanical measures should preferably be resorted to, such as hot baths and sinapisms, which are the best counter-irritants. A warm bath for five to ten minutes may be ordered every three hours until the local phenomena and the temperature have subsided. To achieve this purpose it may become advisable to make the bath somewhat cooler and to employ mustard-baths once or twice daily. The latter are especially called for in cases of collapse and cyanosis. In severe cases,

cold compresses should be applied in the intervals between the baths.

All these external procedures also influence the secretion much better than the usual expectorants, which should be used only sparingly, if at all. The elimination of toxins must be affected or encouraged by the judicious use of purgatives and diuretics. A milk diet, with an abundance of water, will accomplish the latter purpose, and may be assisted by subcutaneous injections of normal salt-solution. To reduce the temperature, a bath is far better than antipyretic drugs. Heart stimulants, such as caffeine, camphor, sparteine, and alcohol, are indispensable under certain conditions, as is also oxygen by inhalation. During convalescence, which is usually slow, vigorous nutrition and suitable tonic medication are required.

#### DORMIOL IN INSOMNIA

Prof. Combemale and Dr. Camus,<sup>1</sup> of the University of Lille, have used dormioli in ten cases of insomnia. Where the insomnia was not the result of severe pain or strong excitement, the results were excellent. Should thorough investigations prove, as it is claimed, that dormioli is free from the toxic by-effects of chloral, the authors state that it will be worthy of occupying an honored position among hypnotics.

#### TREATMENT OF EPITHELIAL CANCER

In a recent dissertation Dr. M. Vignat<sup>2</sup> describes Czerny-Trunczek's method of dealing with epithelial cancer. The treatment consists in the local application of arsenous acid, to which orthoform may be added, as the acid causes severe and lasting pain. To begin with, the following solution is recommended:

Orthoform.....	1 Gm.
Arsenous Acid.....	0.1 Gm.
Alcohol.....	7.5 Gm.
Distilled Water.....	7.5

The proportion of arsenic may be gradually increased until the following strength is reached:

Orthoform.....	1 Gm.
Arsenous Acid.....	1 Gm.
Alcohol.....	40 Gm.
Distilled Water.....	40 Gm.

Solutions of still higher strength may be gradually substituted for the above. After the crust has fallen off, the wound is irrigated with a solution of orthoform, 1 grm. to 1 dr. of glycerin, to render the applications of the acid painless.

<sup>1</sup> *Brit. Med. Jour.*, No. 2110.

<sup>2</sup> *Revue de Thérap.*, LXVIII, No. 6.

<sup>1</sup> *Vratch*, XXII, No. 20.

<sup>2</sup> *Klin.-therap. Woch.*, VIII, No. 24.

# MERCK'S ARCHIVES

## MATERIA MEDICA & DRUG THERAPY

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SEPTEMBER, 1901

A CORRESPONDENT asks us to give him the best and most effective treatment for locomotor ataxia. When Heinrich Heine, the great erratic poet, was lying helpless on his "mattress-grave," suffering unspeakable tortures caused by that dread disease, he took special delight in reading medical literature—text-books as well as periodicals. As might be expected, he devoted special attention to locomotor ataxia. When asked what benefit he derived from the perusal of that literature, whether he expected to undertake a course of self-treatment, etc., he answered: "Oh, no; but when arrived in heaven, I expect to deliver a lecture on what the physicians *don't* know about locomotor ataxia." Heine's witty remark unfortunately still contains a large modicum of truth, even at the present day. We have no really effective, let alone specific, treatment for tabes dorsalis. Our measures consist of electricity, massage, graduated exercises, and general reconstructives. For the severe lancinating pains, morphine still remains the sheet-anchor. Where there is a specific history, mercury and the iodides generally prove very beneficial; but that each case of locomotor ataxia is etiologically connected with syphilis, we are very far from believing—the dicta of Erb, Strümpel, and other authorities notwithstanding.

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IN an address delivered before the Association of American Medical Editors, Dr. Burnside Foster, editor of the *St. Paul Medical Journal*, had the following to say, among other things, concerning book reviews: "It will, I think, be admitted, on reflection, that the first duty of a medical journal is to its readers in the matter of book

reviews. Many physicians always wait to read the reviews of a book in their favorite journals before deciding whether or not to purchase it. To praise a bad and useless book is to cause some readers of your journal to pay their money for something which they do not want and which is useless to them. This is not fair. . . . Books should be honestly reviewed, with perfect fairness to both author and publisher, but at the same time the reviewer should be urged to bear constantly in mind that many of the readers of the journal will be influenced by his review as to whether the book is worth buying or not. It has been my experience that the best publishers appreciate honest book reviews."

He also states that the word "nauseating" is the only word which seems to him to describe fitly many of the book reviews in many medical journals.

We fully and heartily indorse the sentiments of Dr. Foster and are proud to say that the reviews in the ARCHIVES have always been independent, frank, and fearless, always expressing the exact, untampered opinions of the reviewer. While we are never hypercritical and avoid splitting hairs and searching for minor defects, we always remember that our first duty is towards readers and not towards author or publisher. A careful perusal of the book reviews in the ARCHIVES will bear out this statement fully.

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THE fearful consequences sometimes following a single illicit intercourse are well illustrated by a case cited by Dr. Bonne. A young man became infected with syphilis. Marrying soon afterward, he infected his wife, who died five years later from syphilis of the brain. Two children also died of syphilis. The wife's mother became infected while nursing one of the children, and in her turn infected her son's wife, who afterwards bore two still-born syphilitic children. The wife of another son also became infected in a similar manner and suffered fearfully from syphilis of the bones. And all these terrible ravages the result of one imprudent step!

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FRESH air is of the greatest importance in the treatment of tuberculosis, but is not a panacea for the disease. Alone, without the aid of proper diet, hygiene, and medicinal agents it will not make a very striking showing. The Southern negro lives practically all the time in the open air, and yet there is no other race or class of people in the world in which tuberculosis is so frequent and so destructive.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

### To Remove Cerumen from the Ear

M. S. asks for an easy and efficient method for removing hardened cerumen from the ear.

Syringing with a solution of sodium bicarbonate, containing some glycerin, is very efficient; the wax is softened and easily removed. It takes occasionally several hours before the softening effect is fully accomplished. When it is desired to remove the wax at once, hydrogen peroxide is remarkably efficacious. Fill the external meatus with the medicinal hydrogen peroxide, let it remain a few minutes, the patient holding his head inclined toward the opposite side. The cerumen will become softened and disintegrated, and can be easily removed by syringing with warm water. Very recently ether (the regular ether used for anesthesia) has been recommended for the purpose. The external auditory canal is filled with the ether from a pipette and in a few seconds the wax is disintegrated and is removed by gentle syringing.

### Treatment of Simple Goiter

Dr. T. J. S. writes: (1) What treatment would you suggest for simple goiter? Not as yet affecting heart, but becoming larger. (2) Also, what treatment for a case of sunstroke of three years ago. Now, when it gets too hot patient has a very severe basillar headache and fullness about the eyes. Pulse slow and soft.

(1) The treatment of goiter or simple enlargement of the thyroid gland may be expressed in the words "iodine" and "thyroid." Goiter, in fact, was the first disease for which iodine was ever used. It was brought to the notice of the medical profession for this purpose by Coindet, of Geneva, in 1820 (nine years after the element was discovered by Courtois), and has been used ever since. It has been employed in three ways: by external application (tincture or ointment), by intraglandular injection (tincture of iodine, 5 to 10 min.; Lugol's solution, 10 to 15 min.; or iodoform emulsion; [iodoform, 1 part; ether, 5 parts; sterilized olive oil, 9 parts]); or by internal administration (Lugol's solution, potassium iodide, ferrous iodide in pill form, etc.) Recently iodipin, a combination of iodine with sesame oil, has been used with alleged splendid success. The beneficial action of iodine and its prep-

arations on the size of the goiter is undoubted, though no assurance against relapse can be given. Since thyroid was introduced, a few years ago, many reports of a favorable nature have appeared in the periodical literature. In simple goiter, thyroid gland can be given in larger doses and with less fear of dangerous by-effect than in myxedema.

(2) The drugs which have been used and recommended in the condition you describe are the iodides and ergot; also the application of an ice-bag to the head. The chief treatment, though, is prophylactic; namely, the patient must by all means avoid exposure to the sun, and must try to keep as cool as possible, by means of frequent cold baths and ice-bags to the head.

### Ehrlich's Diazo Reaction and Widal's Agglutination Test

Drs. M. A. C., M. T. C., and T. C. N. ask to be enlightened as to the meaning of and the way of performing the diazo reaction and the agglutination test in typhoid fever. Also whether the tests may be considered pathognomonic.

The diazo reaction was brought to the notice of the medical profession by Dr. Ehrlich, of Berlin, in 1882. In order to perform it, three reagents are necessary; namely, (1) a saturated solution of sulph-anilic acid in a 5-per-cent. solution of hydrochloric acid; (2) a one-half-per-cent. solution of sodium nitrite, and (3) ammonia water. These reagents must be kept in separate bottles. When wanted for use, 40 Cc. of solution 1 are mixed with 1 Cc. of solution 2. Several cubic centimeters of urine are put in a test-tube and thoroughly mixed with an *equal volume* of the mixed solution (consisting of the sulphanilic acid and the sodium nitrite). About 1 Cc. of ammonia water is now allowed to flow carefully down the sides of the tube, so as to form a layer above the mixed urine. At the junction of these two layers a *dark* or *cherry-red ring forms*, and this red color constitutes Ehrlich's diazo reaction. If the tube is shaken the entire contents will acquire a red color, and the froth will also have a rose color. This reaction, while it cannot be considered pathognomonic, is pretty constant. It makes its appearance at about the time of the rash and lasts till about the twentieth day; it may disappear at about the fourteenth day. The absence of the diazo reaction is pretty strong evidence against the presence of typhoid fever, though its appearance cannot be taken (as mentioned above) as a pathognomonic sign of the existence of typhoid. The reason is that we may also get this reaction



in some other diseases accompanied by high fever. The substance that gives rise to the reaction is probably the product of nitrogenous metabolism.

The Widal (or, rather, Widal-Grünbaum) reaction is based upon the fact that blood serum from a typhoid fever patient has the property of arresting the motion of typhoid bacilli; it agglutinates or aggregates them into clumps, and is therefore frequently called the agglutination reaction. Widal's original method consisted in adding the blood or serum to either a young bouillon culture or to sterile bouillon, which was at once inoculated with the typhoid bacillus. In the former case, the reaction appears usually within two or three hours; the previously turbid fluid is cleared up, while the agglutinated bacilli fall to the bottom in the form of a sediment. In the latter case (that is, when the blood is added to sterile bouillon, subsequently infected) the tube is placed in an incubator, and in about fifteen hours the reaction is apparent: the bacilli grow at the bottom of the tube, as a sediment, while the supernatant liquid remains almost or quite unchanged.

If examined under the microscope, this reaction appears immediately or in a few minutes. The otherwise rapidly moving bacilli at once become motionless and are seen to clump in various shaped masses.

Dr. Hermann Biggs, of the New York City Health Department, found the Widal reaction during the first week in about 70 per cent. of cases; during the second week in about 80 per cent., and during the third and fourth week in 90 per cent. As is seen, at the time when a corroborative diagnosis is most desirable—namely, during the first week—the test fails most frequently.

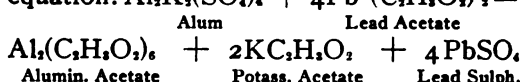
#### Alum and Sugar of Lead

Dr. H. H. writes: In adding sugar of lead to a solution of alum, I noticed a heavy white sediment, which settled to the bottom after standing a while. Is the sediment of importance, or may the solution be poured off, leaving the white substance in the bottle? I am not "much up" in incompatibilities. I don't think our professors knew anything about it at the time I studied medicine.

Alum is a double sulphate of aluminium and potassium (or of aluminium and ammonium); sugar of lead is lead acetate. When the two salts are mixed in solution, a double decomposition takes place; the *acetate* of the lead is transferred to the aluminium and potassium, forming aluminium and potassium acetates, which, being very soluble salts, remain in solution. The *sulphate* goes over to the lead, forming lead sulphate, which, being an insoluble com-

pound, precipitates out. This lead sulphate is best removed, as its medicinal virtues are slight, and there is danger of lead absorption should the mixture be applied to a large, raw surface. If the mixture is desired as an injection in gonorrhea, the lead sulphate may be left in, as it exerts a certain healing and astringent effect on the urethral mucous membrane. In Burrow's solution (a solution of aluminium acetate), which has been used for many years as an antiseptic and which is made of alum and lead acetate, the directions are to filter off the precipitate.

The reaction taking place between the two salts is expressed by the following equation:  $Al_2K_2(SO_4)_4 + 4Pb(C_2H_3O_2)_2 =$



#### Formulas for Saline Solutions

B. J. R. writes that he read with interest our explanation of the terms normal and deci-normal salt solution, and asks for the various formulas of solutions used subcutaneously and intravenously.

There are many different formulas in use. Following are a few of them:

Sodium Chloride.....	6 Gm.	(1 1/4 dr.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	10 Gm.	(2 1/2 dr.)
Potassium Chloride...	0.1 Gm.	(1 1/2 grn.)
Calcium Chloride.....	0.2 Gm.	(3 grn.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Calcium Chloride.....	0.25 Gm.	(4 grn.)
Potassium Chloride.....	0.1 Gm.	(1 1/2 grn.)
Sodium Chloride.....	8 Gm.	(2 dr.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Sulphate.....	10 Gm.	(2 1/2 dr.)
Sodium Chloride.....	5 Gm.	(1 1/4 dr.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	5 Gm.	(75 grn.)
Sodium Hydrate.....	1 Gm.	(15 grn.)
Sodium Sulphate.....	2.5 Gm.	(38 grn.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	3 Gm.	(45 grn.)
Sodium Sulphate.....	10 Gm.	(2 1/2 dr.)
Sterilized Water.....	500 Cc.	(1 pt.)
Sodium Chloride.....	0.75 Gm.	(12 grn.)
Sodium Bicarbonate...	0.5 Gm.	(8 grn.)
Sterilized Water.....	200 Cc.	(6 1/2 oz.)
Sodium Chloride.....	4 Gm.	(1 dr.)
Sodium Bicarbonate...	10 Gm.	(2 1/2 dr.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	4 Gm.	(1 dr.)
Sodium Carbonate.....	3 Gm.	(45 grn.)
Sodium Hyposulphite...	3 Gm.	(45 grn.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	5 Gm.	(75 grn.)
Sodium Bicarbonate...	2.5 Gm.	(38 grn.)
Sterilized Water.....	1000 Cc.	(1 qt.)
Sodium Chloride.....	6 Gm.	(1 1/2 dr.)
Alcohol.....	6 Gm.	(1 1/2 dr.)
Sterilized Water.....	1000 Cc.	(1 qt.)

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

### The Foundations of Faith in Medicine.—

Faith in the internal administration of drugs has divided the public and is far from uniting the medical profession. Among the laity we find all degrees and varieties of anti-medicine fanaticism, from the belief that the use of medicine is a denial of the power and wisdom of God, to the loudly reiterated statement that medicine is powerless to affect the body, and that mind is alone accountable for disease and cure. Another extreme is the patent-medicine devotee, whose faith in labels is matched only by the savage before his fetish. . . . A sober majority, however, still have a faith in drugs plus doctors, preferring to mix their medicines with a certain amount of brains.

On the professional side we must recognize the influence of the elderly physician, whose favorite saying is that he began practice with a hundred remedies, and now uses three or four; and the influence of the surgeon, whose lifted eyebrows and shrugging shoulders stimulate public distrust in medical science. We find, also, the young practitioner who panders to a certain class of the public by explaining on occasion that *he* depends mostly for treatment on diet, hygiene, electricity, massage, etc., thus insinuating that drugs are "out of date."

I will not catalogue the numerous medical quackeries and creeds. Let it suffice that the solid majority of the medical profession, like the sober mass of the laity, have an abiding faith in the intelligent use of medicines. It is this class which should now and then reconsider the foundations of this faith and help to preserve the mental equilibrium of society.

I offer no new contributions to our knowledge of drug-action, but would briefly review the reasons for the faith that is in us.

Medical knowledge became science when it was considered in the same way that geology, botany, and astronomy are considered. The susceptibility of living tissues and organs to chemical substances is a fundamental fact as irrefutable as any fact in mathematics. The world knows that sufficient quantities of chloroform, strychnine, or morphine will produce such extreme alterations in bodily processes that death is the result. That lesser quantities will also produce alterations in tissue chemistry and organic functions is no less certain. Similar statements may be made of most other drugs. It does not follow, because a drug in large doses will cause death, that therefore in smaller quantities it will produce deleterious effects. It is well known that there is a line between poisons and non-poisons. It is a question of dosage. Ordinary table salt may be taken in quantities large enough to produce death. Hydrochloric acid, a natural secretion of the human stomach, and necessary in the normal digestion of food, is nevertheless labeled poison by every druggist. The secretion of the thyroid gland is absolutely essential to the development of the individual and the maintenance of health, and yet it is secreted or administered in too large quantities, its action is poisonous.

Exactly what alterations may be produced in the body by various substances has been partially answered by the record of the experience of many thousands of trained intellects, from the time of

Hippocrates to the present day. More precise and increasingly valuable answers are being given by patient experimentation upon animals. It is only by animal experiments that much further advance can now be made into this vast field.

The practical question affecting medical faith is whether or not the effects producible by various drugs can be used in combating disease processes and their results. For answer we may call to mind the extraordinary control of bodily processes which may be exercised by the humblest practitioner, by means of well-known drugs. This control, although for the most part temporary, enables the physician to secure some extremely valuable effects. He can regulate elimination of effete matters. For example, he can produce or he can stop sweating; he can increase or decrease the expectoration; he can cause and often relieve vomiting; he can alter the quantity, constitution, reaction and antiseptic properties of the urine; he can excite or check the movements of the bowels. The circulation is likewise obedient to his touch. He can produce at will a rise or fall in arterial pressure; he can steady or strengthen or slow or quicken the action of the heart. He can stimulate or depress the respiration, and increase or decrease the power to cough. Digestive processes, particularly those of the stomach, may be profoundly influenced. The constitution of the blood may be altered; the quantity of hemoglobin, the volume of red corpuscles, and the number of leucocytes are in most cases subject to the will of the physician. He can reduce the temperature in fever to any desired degree. He can quiet the nervous, and relax spasms. He may exercise a marvelous dominion over pain. There is no physical suffering which lies beyond the temporary control of the physician. He may cause a local anesthesia, or he may impose a general insensibility to any surgical procedure, however severe. Further than this, he may supply lacking secretions and body substances, and produce results which are sometimes little short of marvelous. Iron, suprarenal extract, pepsin, hydrochloric acid, and thyroid substance are examples of this enlarging class. What can be more convincing as to the value of animal experimentation than the ability it has given the physician to transform the cretin idiot—that squat, hideous monstrosity of the museum—into the normal shape and mind of a human being. Such is the power of the thyroid extract over the secret metabolism of the flesh.

More brilliant, however, than the treatment of the patient, is the modern treatment of the disease itself. This department of medicine has saved and will continue to save the human race untold and incalculable suffering and death. Such is the power which the physician can wield through the possession of the antitoxin of diphtheria, the anti-tetanus and the anti-streptococcus serums, anti-syphilitic and anti-malarial drugs, prophylactic inoculations, and the great range of antiseptics. These classes of agents, although yet small, have wrought such a change over the face of medical science that our expectations of future developments are almost without bounds.

This control of the body and disease processes by drugs is by no means the limit of the physician's resources in the battle with disease. He has a well-equipped armamentarium of agents other than internal medicines. But the fashion of the day is to exalt these other methods at the expense of medicine, until the physician in some quarters is made to feel almost apologetic for prescribing any mere drug. As a profession, we

must remember that therapeutics is the highest and most difficult art in the whole range of medicine and surgery. The matchless science of diagnosis is but the handmaid of therapeutics. In the final analysis, the diagnostician finds the purpose and aim of his work to be the accurate application of agents to combat the processes and results of disease, and to restore the largest possible measure of health, whatever may have been the departure from the normal.

The failures of therapeutics are very often referable to failures in diagnosis. It is not enough to name the disease or defect. We must know with some degree of exactness what organic and tissue processes are being enacted. Then, and then only, can the resources of medicine be brought to bear. No matter how perfect may be our control of bodily functions, unless by a minute diagnosis, we know what should be done, we cannot accomplish the aim and end of all therapeutic effort. Diagnosis is the key to medicine. Nothing short of daily use of the microscope, the test tube, and the many other accessories to modern clinical diagnosis will answer the exactions of the present day therapeutics.

It is true that the medical profession is not and should not be satisfied with the present status of therapeutics. There is an infinity of things hoped for, but the emphasis should not be so laid upon the shortcomings and imperfections of our art as to obscure the public view of the splendid resources and powers of medicine in this very day and generation.—A. W. Crane, *Phil. Med. Jour.*

**Is Sterility Increasing Among American Women?**—Engelmann brings a grave charge against the women of America. But the accusation of a lack of the maternal instinct and of having a desire to shun the duties of motherhood is one which would be strongly refuted by thousands of American mothers were an opportunity given them to do so; mothers who have and are still giving birth and nurture to the greatest race of people that the world has ever seen; mothers who have made the American nation what it is and who, through this agency, will dominate the destinies of the nations of the Earth, for the time is not far distant when it can be said in truth of the American mother that the hand that rocks the cradle rules the world.

The maternal instinct is the latent but all-pervading power that dominates and regulates the female organism from the cradle to the grave. Unchanged by evolution, unaltered by education and surroundings, repressed but not subdued by the restrictions of society, woman yearns unceasingly, and often, like Rachel, in despair, for the fulfillment of this natural and principal function for which she is created, although she travaileth in sorrow in accordance with the Divine behest.

The American mother represents the highest type of perfected womanhood, and as such is amenable to Nature's laws to the full measure of their exactions. That she seeks to great extent to avoid this, the chief aim of her Maker, we are loathe to believe.

Engelmann's statistics are startling. But their import is weakened by their paucity. They are too few in number to prove with any degree of positiveness the correctness of his appalling statement. A careful digest of the figures of the last census for the entire country regarding the number of births during the decade, and an estimate of their proportion to the total number of married women, is necessary in order to form a correct basis for estimation, instead of that of a few isolated communities.

The proportionate extent of sterility from disease is not greater in America than in other countries, and considering the skill of American gynecologic surgeons, should be less. The demands of society and the difficulties which are met with in a struggle for existence may, in certain localities, cause a diminution or lead to an intentional sterility on the part of women, but doubtless the general average still continues.

We do not find an overproduction of the animal kingdom in Nature, where they are untrammelled by the restrictions of man, and it appears reasonable to believe that provision has been made by the Almighty to prevent overpopulation of the human race. Doubtless in the process of evolution, and as the population of the world grows denser, there will be a gradual diminution in the number of the offspring until a period in the world's existence will be reached when there will be but two children in each family—a male and a female. But it is hardly probable that such a condition has been reached in America, or that it is in accordance with the Divine plan to restrict the growth in population by intentional sterility.

If subsequent investigations prove the accuracy of Engelmann's deductions, we will wrest from France the unfortunate distinction of being the least prolific of all the earth's peoples, a condition which, manifestly, we have not reached, and an honor (?) which we have not yet earned.—*Courier of Medicine.*

#### **Epidemic Hypnotic Criminal Suggestion.**—

A child returned from a public execution to imitate after the manner of children, what he had seen, and killed himself by hanging. An epidemic of family murder by drowning helpless children is said to be prevalent in London. Several atrocious crimes of the Guldensuppe type followed, in New York, that terrible murder. In some part of the world there is almost every week chronicled these instances of epidemic crime incited by morbid suggestion derived from public or published initial examples. The newspapers give sinful accounts of the sins and thus encourage them. Pathologic suggestion and its dangers are facts the profession should urge upon legislators. Professor Gregory, of Iowa, says: "The excited reflection upon a shocking act by many thousands of persons, including numbers of low intelligence and morale, operates as a dangerous hypnotic suggestion to the crime." In the last five years there have been about 40,000 murders in the United States, and 632 lynchings. During this period, there have been but 597 legal executions. If capital punishment has the deterrent effect claimed for it, there should have been vastly more of them. We think they do not have that effect, but exactly the opposite one, and are certain it is so as to public executions.—*Amer. Med.*

#### **Research Laboratories.**—

Discoveries are never accidental, though they may come when least expected. Science has strange surprises, but they are yielded only to methodical and steady work, and for this research laboratories are needed in ever-increasing numbers. The whole public health service was a free gift to the nation from the medical profession, and largely from members of the British Medical Association. Shall we not emulate the examples thus set us and give to scientific research the support which it so much needs, support from our funds as a corporate body—support individually, as each happens to have the ability and the means?—E. T. Wilson, M. B. (Oxon.), F. R. C. P.

## Correspondence

### Why Are Men Bald?

#### MERCK'S ARCHIVES:

Why are there so many more men bald than women? So far there has been no logical answer to that question. All theories advanced have not been able to stand critical analysis, nor has any one been able to formulate a universal panacea to overcome the disorder known under the scientific name of alopecia, but which in plain English is known as baldness—all promoters of hair restorers to the contrary, notwithstanding.

Here and there may be found the statement that man is undergoing a process of evolution, and that in time all men will be bald-headed. That assertion is pure assumption; it is not scientific, as it cannot be proved or disproved. We pass it without further comment.

Some writers ascribe alopecia to an excess of blood—hyperemia—because portly, red-faced men are often bald; but when we see thin, bloodless, anemic individuals who are bald that theory is weakened. Another is that the blood is too sluggish, and the heart does not force the blood into the integument of the scalp in sufficient quantity; but here arises the objection: nervous, excitable persons, whose hearts work actively, are often found bald-headed. We also hear that it is caused by a tight scalp; another says, a too loose scalp is the cause of baldness; and one expert on skin diseases says that too much washing of the hair takes out the natural oil, causing the hair to dry up and drop out.

The theory which has been more largely accepted than any other is that tight-fitting and close headgear cuts off the supply of blood. Also the heating effect of heavy and close-fitting hats, creates a feverish condition in the scalp, producing the disorder by a decay of the hair follicles. The latter theory appears to be a plausible one, when it is considered that but few men become entirely bald, except in cases where fever has destroyed the roots of the hair. The latter condition is comparatively rare. The average bald-headed man has usually more or less of a fringe of hair just below where the rim of his hat reaches.

Before proceeding further, it will be well to consider the tight and close-fitting hat theory. "Modern Researches," page 162, states: "Certain races, who wear the most unsanitary head covering, are not afflicted with baldness. Arabs, who wear heavy turbans wrapped about their heads and rarely take them off from morning until night, do not become bald-headed. The Mexican peon delights in silver and gold-braided sombreros, which weigh from four to ten pounds. They wear them during their working hours, and, like their Arabian brothers, do not become bald." So we are compelled to discard the theory that tight hats are the primary cause of bald-headedness. [But the Arabs do not wear any tight headgear; a turban is different from the sharp rim of a hat.—Ed.]

Each of the causes noted may help in part to induce a decay of the hair follicles or glands. That is to say, if it were not for the hot, close head covering, the excess of blood, the lack of blood-supply, etc., there might not be so many bald-headed men. If the air continually circulated freely through the hair, it might, and no doubt often would arrest the decay of the hair follicles.

For years physicians have tried to find ways and means to overcome the disorder; have produced various remedies to arrest the decay of

hair and to raise a good crop, where the fleshy soil appears to be thin. Microbes and parasites have been studied by manufacturers of hair restorers and the market is flooded with many nostrums for bald-headed men. But without avail; the vast array of bald-heads is increasing in number. Baldness comes over a man insidiously, silently, stealthily, and like old age it comes to stay, with no prospect of relief.

The theory which is most plausible is found in "Modern Researches," where it is held that baldness is caused by the remains of vernix caseosa. This material is often of an impure nature, producing eczema of the scalp. In corroboration the author of that work quotes from writers who are considered expert dermatologists, as "Jackson on Diseases of the Scalp," "Shoemaker's Diseases of the Skin," "Fox on Skin Diseases," Hyde, and others.

The writer of "Modern Researches" says: "There is some latent form of disorder—in the scalp—which has its inception during the formation of the hair follicles. There is a defect in the skin of the scalp—the formation of healthy sound epidermic cells has been retarded or diseased while it was in process of construction, i. e., before birth. Consequently, when the diseased or defective epidermis comes in contact with the atmosphere, there arise disordered conditions which can be traced to more or less impure or diseased vernix caseosa."

Now, to answer the question, Why do not women become bald? the same author has a logical answer. "As women do not wear tight, close-fitting headgear, the air circulating freely through their hair prevents the disorder from assuming its severest forms, therefore women do not become bald like men, but in many cases the hair is very thin on top of the head from the same primal cause.

[Our correspondent does not seem to notice how completely he contradicts himself. If it is the headgear in general, and not the tight-fitting hats, then why do not the Arabs become bald? As to the vernix caseosa, that is pure assumption, unsupported by any facts, evidence or logical reasoning. Besides, it does not help matters any, because according to our correspondent's own statements, it still requires an exciting cause—the tight-fitting hat of man—to produce baldness. In our opinion, the causes of baldness in general—excluding special cases, where it is the result of disease, syphilis, or infection—are as follows:

First and foremost: Steady and hard intellectual work; (this explains very satisfactorily the fact of there being so many more bald heads among the intellectual classes than among ignorant laborers). Second, business worry and a sedentary life. Third, sexual excess. Fourth, man's tight-fitting headgear. In these causes we find a satisfactory answer to the question why men are so much more frequently bald than women. Because in woman these causes are operative to a much less extent than they are in man. The question was recently raised, Why are there practically no bald heads among the common criminals? Our first cause explains this: The common criminal is at the lowest stage of intellectuality. The theory recently expounded by Dr. Delos R. Parker, in the *Medical Record*,—that alopecia is due to a want of mobility in the masculine thorax, as compared with the feminine, causing a greater stagnation of residual air in the apices of men's lungs, which is then absorbed and exerts a selective poisonous effect upon the hair of the scalp—is, in our opinion, unworthy of serious consideration. His so-called experiments prove nothing.—Ed.]

## Book Reviews

While we firmly believe in the bacterial origin of a great number of diseases, we are not so fanatical on the subject as to be unable to calmly weigh any arguments brought forward against the bacterial theory. In a brochure of twenty-eight pages, entitled *THE MICROBE-PRODUCING DISEASE THEORY INCONSISTENT WITH THE LAWS OF NATURE*, J. P. Schmitz, M.D., tries to bring forward such argument; but he fails signally and dismally. As an example of the author's deep reasoning we quote the following: "Why do some patients die and others not? . . . If microbes were the cause of disease, how is it that catarrh, measles, scarlatina, variola, typhoid fever, and many other diseases, each has its particular course and termination? Does this not show that the microbes have nothing to do with it?" Isn't this an unanswerable argument? Then, further, he states that malaria is not due to bacteria, but to autotoxin. It is true, he says, that a solution of quinine will kill microbes, but it does this as a compound. And he asks, "Who has administered quinine that entered the circulation and tissues as a compound, and so killed the microbes in the circulation and tissues?" The author seems to be unaware of the fact that quinine has been administered thousands of times hypodermically and even intravenously, with most excellent antiperiodic results. In short, the reasoning of the author is as shallow as his ignorance is deep, and the bacterial theory of disease is in no danger of being overthrown by such onslaught. (Published by the Author: 3321 Twenty-first street, San Francisco, Cal. Price, 50 cents.)

*A TREATISE ON THE ACUTE INFECTIOUS EXANTHEMATA*, by William Thomas Corlett, M.D., F.R.C.P., London, is one of the best—or, we might say, the very best—works we have seen on the subject. The treatment of each separate disease is remarkably thorough and exhaustive. The colored plates and other illustrations are excellent. As the clinical opportunities for studying such a disease as smallpox are rather scant, while a failure to diagnose it at the earliest possible moment may be fraught with the gravest consequences, the author has discussed that disease with the utmost detail—in more than a hundred pages—and the illustrations should prove very helpful to the practitioner. (F. A. Davis Company, Philadelphia.)

*THE MENTAL FUNCTIONS OF THE BRAIN*—an investigation into their localization and their manifestation in health and disease—by Dr. Bernard Hollander, is in many respects a remarkable book. It is the first attempt that we have seen to present phrenology in a true scientific spirit, and one need not be an enthusiastic disciple of Gall in order to enjoy and profit by the mass of facts and information that Dr. Hollander has collated in this beautifully printed volume of over 500 pages. (G. P. Putnam's Sons, New York and London. Price, \$3.50.)

*PRINCIPLES OF SURGERY*, by N. Senn, M.D., Ph.D., LL.D. To those acquainted with the accomplishments of Dr. Senn as a surgeon and a scientist, this work needs no introduction and no recommendation. Suffice it to say that this, the third edition, has been thoroughly revised and enlarged. Two new chapters have been added, one on "degeneration" and one on "blastomycetic der-

matitis." As the title indicates, the volume treats of the principles of surgery exclusively, and not with surgical technique. The chapters on regeneration, inflammation (which, by the way, are considered by the author as distinct conditions, not to be considered from the same etiological and pathological standpoint), suppurations, necrosis, pathogenic bacteria, etc., etc., are remarkably exhaustive and will repay a careful study. (F. A. Davis Company, Philadelphia. Third edition. Thoroughly revised, with 230 wood-engravings, half-tones, and colored illustrations. Royal octavo. Pages, xiv—700. Extra cloth, \$4.50, net; sheep or half-russia, \$5.50, net. Delivered.)

*MANUEL DE PETITE CHIRURGIE*, par A. Jarmain, Félix Terrier, et M. Péraire. An excellent manual of over 1,000 pages and nearly 600 illustrations, treating of minor surgery, from the modern standpoint. The illustrations are rather poorly executed—some of them reminiscent of the "chirurgical" illustrations of the Middle Ages—but the text is clear and the directions are explicit. (Felix Alcan, éditeur. Paris.)

### Publications Received

*Gumma of the Spermatic Cord, with Report of a Case*. By R. R. Campbell, M.D. Reprinted from the "Journal American Medical Association," June 15, 1901.

*The Story of the Papaw*. By F. B. Kilmer. Reprinted from the "American Journal of Pharmacy," June-August, 1901.

*Our Recent Epidemics of Smallpox and the Failure of Glycerinated Lymph*. By F. J. Runyon, M.D. Reprinted from "Memphis Medical Monthly," August, 1901.

*Announcement of College of Medicine of Syracuse University, 1901-1902.*

*The Causes and Treatment of Urgent and Serious Conditions in the New-Born*. By Samuel Wolfe, A.M., M.D. Reprinted from the "Philadelphia Medical Journal," Feb., 1901.

*An Equation of Responsibility*. By Edwin W. Pyle, M.D.

*The Prevention of Intracranial and Intravenous Suppurative Diseases of the Ear*. By J. H. Woodward, B.S., M.D. Reprinted from the "Journal of the American Medical Association," Feb., 1901.

*The Closure of Cutaneous Wounds Without Suture*. By Howard Lilienthal, M.D.

*Quarterly Announcement of the College of Physicians and Surgeons, Boston. Session of 1900-1901.*

*Two Hundred and Thirty-seven Consecutive Abdominal Sections*. By Charles Gilbert Davis, M.D.

*Malarial Fever, with Special Reference to the Value of Blood Examinations; Report of Cases*. By Henry Old, M.D. Reprinted from the "Medical News," March, 1901.

*A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction*. By L. Bolton Bangs, M.D. Reprinted from the "Medical Record," March, 1901.

*The Roentgen Rays in Diagnosing Arteriosclerosis*. By Carl Beck, M.D. Reprinted from the "N. Y. Med. Jour.," Jan. 22, 1898.

*The Roentgen Rays in Spina Bifida*. By Carl Beck, M.D. Reprinted from the "Medical Record," 1898.

# MERCK'S ARCHIVES

OF

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### President McKinley's Death

NOTHING that has occurred within the present century so completely shows the limitations of human power in its attempted mastery of nature as the calamity that has left this nation in deep mourning over its former chief executive. We are proud, and rightly so, of our educational facilities and of the influence that education exerts upon the moral nature of our people, yet it was one educated in American schools who in so cowardly a manner assassinated our beloved President. In defiance of our best efforts to inculcate reason and civilization into the lowest strata of the community by free education, a savage grew up among us capable of doing a deed that makes humanity shudder. The fact that his parents were foreign born, and that this foreign influence may have affected the result, does not materially alter the case. Our powerlessness to save ourselves from such deeds by education alone is only too apparent. We boast of the great influence of our churches and of the power they exert upon the young in keeping them within the paths of rectitude, and the proof of their good works is constantly before our eyes. But neither the influence of the school nor that of the church can cope with exceptional cases.

All public men must necessarily have opponents, but no other man of eminence ever had more friends or more well-wishers than William McKinley. In his many years of public service, through his just, honest, and kindly ways, he won the affection of multi-

tudes of his fellow-citizens, and none could say a word against him personally. His own inoffensiveness, the bulwark of kindly feeling thrown around him by his friends, even the smile with which he greeted the assassin while offering to take his hand, all failed to save him. Nor was he lacking in such protection as force could throw around him. Guarded on every hand by skilled private detectives, educated to thwart criminals, and to be alert and prepared for just such emergencies, one might have hoped for better results. Alas! here, too, the impotence of human effort became manifest; and in the face of it all what more can we say than was so pathetically said by the President himself, "It is God's way."

During the time that he was under treatment for his wounds the whole civilized world was sending forth heartfelt wishes as well as sincere prayers for his recovery. The churches throughout the land were appealing in his behalf. Catholic, Protestant, and Hebrew were alike solicitous for his return to health. Prayers, too, proved unavailing, for neither they nor tears were able to alter the supreme decree or raise the standard of human power. The medical reports scattered over the country by the press seemed, for a number of days, to betoken a realization of the nation's wishes—a speedy recovery of the distinguished sufferer. Journals, both lay and medical, were rejoicing in the good prospects that seemed to be foreshadowed; but it all ended in the gloom of despair. In the moment of ap-

parent triumph high encomiums were published regarding present-day surgery and medicine. But these eulogistic comments only served at last to emphasize the impotence of man before the great unexplored and unknown regions of nature that lie around us. The majority of men appear to look upon the known as everything, and never seem to dream that there is a greater territory of the unknown. Much as we now know, we must know vastly more before we are able to cope successfully with the exigencies of new conditions. The President's case, unfortunately, introduced a condition that transcended the highest present-day human skill. The report of the autopsy says:

"The bullet which struck over the breast-bone did not pass through the skin and did little harm. The other bullet passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissue around each hole had become gangrenous. After passing through the stomach the bullet passed into the back walls of the abdomen, hitting and tearing the upper end of the kidney. This portion of the bullet track was also gangrenous, the gangrene involving the pancreas. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart walls were very thin. There was no evidence of any attempt at repair on the part of nature, and death resulted from the gangrene, which affected the stomach around the bullet wounds, as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment, and was the direct result of the bullet wound."

Had the bullet taken a less fatal course, had a condition of gangrene not ensued, and had recovery taken place, the attending physicians and surgeons would have won from the public unstinted and exaggerated praise. Since death was unavoidable, in our present state of knowledge, they received a large amount of undeserved censure. But while many unfriendly words have been penned against them, yet it is very gratifying to see that our best lay journals have looked upon the matter in its true light. Taking the conditions as they were, and giving due weight to every fact, honesty compels every qualified man to conclude that neither he nor any other human being could have changed the outcome a particle. Our surgeons venture farther now than ever before in the history of man, but they cannot go beyond the very depth of their

knowledge. Our medical knowledge can do more for the suffering to-day than ever before, but we do not yet know how to immunize the body against the appearance and fatal advancement of gangrene within the internal organs. Such treatment is yet beyond the borderland of therapeutics. No one has so far sufficiently studied the laws governing the development of gangrene as to learn what, if any, remedy will stimulate healthy circulation in torn and bruised tissues, and what, if any, antiseptic will check the development of gangrene in any tissue. To acquire such knowledge necessitates a vast amount of experimenting with bruised and mangled tissues, and in the use of drugs new and old that affect the circulation and destroy disease germs. But this is research along lines to which many well-meaning but misguided people object.

Modern methods of scientific research can be relied upon to give just as brilliant results in materia medica and therapeutics as they have given in electricity and mechanics. In so far as such methods have already been applied to materia medica they have borne out this conclusion. Let us then permit and encourage free research after methods of controlling those forces that change diseased conditions to health, and the problem of the diagnosing and replacing of internal gangrenous tissues will soon be solved. When President Garfield was assassinated we were far behind our present day knowledge as to how to manage such a case. Unfortunately President McKinley's wound introduced new problems not as yet solved. Soon we expect to be able to cope with these and so extend the area of our conquered territory. Of course, the broader that territory becomes, the less likely are our surgeons and therapeutists to be baffled with unknown conditions. Great national calamities like the one that has overtaken us stir the human heart to its depths and cement civilized men into closer bonds of fellowship through sympathy. But it does even more than this, since it directs the scientific mind toward efforts of research that tend to minimize the difficulties of treating the sick. Every failure of human endeavor should lead to good through increased knowledge.

[Written for MURCK'S ARCHIVES]

**THE THERAPEUTIC MANAGEMENT OF ALCOHOLIC INEBRIETY**

By J. M. French, M.D., Milford, Mass.

THE terms alcoholism and inebriety, while commonly considered as synonyms, and while I shall myself frequently use them as such, are not strictly equivalent. Alcoholism properly signifies the sum total of the effects of alcohol upon the system; while inebriety, though commonly defined as habitual intoxication, has a better meaning given to it, at least for our purpose, in the writings of the celebrated English specialist, Dr. Norman Kerr, who uses it to signify that "overpowering impulse, craze, or craving, which tends to drive certain individuals to excess in intoxicants." Back of this there is undoubtedly a peculiar abnormal sensitiveness of the nervous system, a lack of balance on the part of the nerve-cells, which constitutes the so-called inebriate diathesis.

Opinions as to the curability of alcoholic inebriety vary greatly according to the different standpoints from which the subject is viewed. The essential point for which I contend as the result of my own experience in the treatment of inebriates is this: that by proper medical treatment the "overpowering impulse, craze, or craving" for alcohol can be taken from a drunkard, leaving him absolutely free from any trace of the disorder; while at the same time his general health and physical and mental vigor are so greatly improved as to constitute what may properly be called a cure. Further, that in a large proportion of cases the desire for drink will not return, at least beyond a man's power to resist, and the man will live and die sober.

The objects to be aimed at in the treatment of alcohol inebriety are four in number, only three of which, however, are within the compass of strictly therapeutic measures. They are as follows:

(1) To break up the habit of drinking. As this is the prime cause of inebriety, its removal is of the first importance.

(2) To remove the morbid craving for drink. This may be considered as the first step in the actual cure, the other being merely preparatory. A man may be kept from drinking by being confined in prison where he cannot get liquor, and still be an inebriate, as is proved by the promptness with which he gets drunk on being released. Or he may keep from drinking by his own force of will, and so long as the craving remains he may be regarded as a reformed drunkard, but certainly not as a cured one.

On the other hand, the man who can drink moderately, and continue so to drink without ever being driven to excess—if any such man there be—is not an inebriate, even though he may be a regular drinker.

(3) To free the system from the effects of drink. In advanced cases, no doubt, this is impossible in the fullest extent, just as a tuberculized lung cannot be wholly restored to its normal condition, or a sloughing ulcer healed without leaving scar tissue. But that does not prevent the possibility of a practical cure in either case.

(4) All these may be secured, and yet be of little permanent value unless the will, the purpose, the moral nature of the man can be reached and influenced for good, unless new ideals can be substituted in place of the old ones, and the man lifted out of the sense-plane upon which he has been living, and made to live for some higher motive than appetite or passion. While this is beyond the reach of drug therapeutics, it is yet the *sine qua non* of successful treatment.

The practical treatment of cases of inebriety I am accustomed to divide into three stages:

The first of these has for its object the breaking up of the habit of drinking, and the removal of the craving for drink. The time occupied by this stage varies widely in different subjects and under different methods of treatment, but in my experience the usual range is from three to ten days. This is the preliminary work which has gained notoriety through the Keeley cure and other secret methods of treatment, in which, as a rule, this is the principal, if not the only, work done. And it is undoubtedly true that in a certain small proportion of cases, even this beginning of proper treatment has been successful in bringing about the desired result, though the proportion is much smaller than when further treatment is properly carried out.

The second stage is almost equally important. It has for its objects the building up of the general health of the patient, and, in so far as is possible, his restoration to a normal condition, with perhaps even an impulse towards a higher plane of living than has ever been normal to this particular individual. This stage lasts, as a general rule, during the remainder of the time in which the patient is directly under the doctor's care, whether it be for weeks or months.

The third is the post-active stage, in which the patient directs his own treatment. He is now thrown upon his own resources, and settles for himself what his course in



life shall be. This stage may be said to last during the entire remaining lifetime of the individual. Some one has said that the only way for a diabetic patient ever to be cured is for him never to think himself cured, and the same rule holds good for an inebriate. No man who has once been a confirmed drunkard can ever again be quite as strong as if he had not been so; and when he thinks himself safe, then he is surely in danger. There is always a liability to relapse, diminishing as the years go by, but never quite disappearing. From personal experience with this class of patients, I never feel quite sure about any one of them until he is dead. Then, and not until then, is the record made up and the result assured.

For the successful treatment of an inebriate, the first thing necessary is to secure his consent and co-operation. If he is not willing to be treated, he will not follow the physician's directions. If he does not earnestly desire to be cured of his disease and freed from the grip of his evil habits as well, probabilities of permanent sobriety on his part are very small.

The next important matter relates to his environment. As a general rule, the treatment can be carried out to much better advantage in a well-equipped sanitarium or private hospital devoted especially to this purpose, than in the patient's home, or in a public hospital or an institution receiving all classes of patients. Few drunkards will submit to the necessary restrictions in their own homes, and few families can be depended upon to carry out the doctor's instructions in relation to one of their own number, however well they might do it with a stranger. On the other hand, alcoholics do not mix well with other classes of patients, nor are they likely, in a general institution, to receive the kind of attention that they require.

For alcoholism and its cognate drug-diseases are like no other class of ailments. They are diseases not alone of the physical system, but of the moral nature as well. And on both these sides the element of habit is a very important consideration. So strong in all these directions is the grip of alcoholism on its victims, that the large majority of drunkards are not in reality willing to give up their cups permanently, however much they may imagine, when they are suffering the reaction of acute alcoholism or the horrors of delirium tremens, that they desire to do so. And there is very little encouragement to attempt to treat a drunkard who does not want to be cured. In most cases it is time and labor thrown away.

Yet it would be going too far to say that

good results can never be secured unless all the conditions are favorable. Cases are sometimes treated successfully at home, in spite of the disadvantages. Recovery may result from hospital treatment. Permanent sobriety sometimes follows the treatment of those who, at its beginning, have no wish or will to reform. The exceptions only serve to prove the rule.

Since the action of alcohol has been studied in the bright light of modern scientific methods, we no longer look upon it as a true stimulant, as it was so long supposed to be, building up the system, but rather as a paralyzant, tearing down the vital forces. Indeed, the whole history of alcoholism, both acute and chronic, is written along the lines of relaxation, paralysis, anesthesia. In the primary action of alcohol, as seen in acute intoxication, this effect is manifested successfully upon the vasomotor nervous system, the power of muscular co-ordination and self-control, the higher centers of thought and will, and the organic centers of sensation and motion. In its secondary effects of chronic alcoholism, its action is no less that of a depressant and paralyzant. The system of the inebriate is relaxed in every part, paralyzed in greater or less degree, unable to carry on its functions properly. Mentally and physically the drunkard is dull, nerveless, incapable. Even in his moments of comparative sobriety, his paralysis, though less complete in degree and less evident to the eye, is none the less real. Drunk or sober, the essence of his condition is that he cannot control himself. He has less vigor and endurance than the normal man. His hands cannot do fine work nor his fingers execute delicate movements as of old. His mind is less clear, and his senses less acute. His moral sense is weakened. It no longer perceives right and wrong, or when it is perceived, has no power to control his conduct. In every fiber of his being he has felt the paralyzing influence of alcohol.

In so far, then, as the treatment of alcoholism can be compassed by drug medication, the first necessity is to find a remedy which will counteract relaxation, tone up the nervous system, stimulate cell-activity, quicken the perceptions, render acute the special senses, and energize all the forces of being. In short, it is not to discover a substitute for alcohol, which will produce equally pleasant results with less injury to the system, but rather an antagonist, which will oppose its effects throughout the whole sphere of its action.

It is also necessary that all the eliminatives should be stimulated to activity, in or-

der to remove as rapidly as possible all waste matter, including the alcoholized tissues, which must now be replaced by new and unalcoholized material. Then there must be sedatives for the delirium, insomnia, and excitement, with remedies for the gastric catarrh, and for all the multiform symptoms which vary with each individual case.

No other drug so well fulfills the first of these indications as does *strychnine*. Its well-known properties point the way to its use in this condition. It is the most potent nerve tonic known to the medical profession. It acts upon the entire nervous system, with a special tendency to the spinal nerves, and the cardiac, respiratory, and vasomotor nerve centers. It exalts the functions of the spinal cord and renders the mind and special senses more clear and active. It increases intestinal peristalsis and aids elimination. When taken continuously in large doses, it produces a bitter taste in the mouth, which is imparted to the liquors that are used.

The action of strychnine may be aided and supplemented by that of *atropine*, or some one of its cognate mydriatics, such as hyoscyamine, daturine, or duboisine. Atropine is the best representative of its class, and is commonly used for this purpose. It acts powerfully upon both the cerebrospinal and the sympathetic systems. "It is," says Dr. H. C. Wood, "the one remedy we have which will summon any power there may be in the vasomotor centers into immediate action." It produces cerebral hyperemia, causes dryness of the mouth and throat, and directly affects the terminal filaments of the nerves of taste. In this way it helps to produce a distaste for alcoholic liquors.

*Apomorphine* holds an important, though entirely subordinate, place in the treatment of alcoholic inebriety. It is useful, when a patient is brought in intoxicated, for emptying the stomach of alcohol and sobering him up. It is also of value, in those extreme cases which resist the usual remedies and refuse to give up their cups, to produce nausea and disgust at the sight, smell, and taste of liquor. For this purpose it should be given hypodermically in connection with the customary drink, and without the patient's knowing that this injection differs from the usual one. Its chief service in these cases is none the less legitimate because it is due to the principle of suggestion. It has also been shown (Dr. Charles J. Douglass, in MERCK'S ARCHIVES for June, 1900) that it is an almost infallible sedative and hypnotic in one-third its usual emetic doses.

The remedies thus far spoken of are best given hypodermically, at least in part. The advantages of this method of administration are these: First, a more immediate, positive, and direct effect is thereby secured. Second, in case of apomorphine, the effect is so modified by the greater rapidity of introduction into the system as to be decidedly different in kind. The dose which, administered subcutaneously, produces prompt and certain emesis, if given by the mouth acts only as an expectorant. Third, it brings the patient directly under the eye and care of the physician at regular intervals during the day, thus enabling him to watch the progress of the case at every stage. Fourth, it gives the doctor an opportunity to vary the dose or change the composition of the remedy without the knowledge of the patient, which is often a matter of importance.

The strychnine and atropine are best given combined in the following proportions: atropine sulphate,  $\frac{1}{6}$  to  $\frac{1}{4}$  grn.; strychnine nitrate, 1 grn.; sterile hot water, 1 oz.; boric acid, 4 grn., as an antiseptic. Of this the average dose is 10 min., but may range from 6 to 12 or even 15 min., according to the effect produced, given four times a day. This dose of strychnine is intended to be one-half the whole amount required, the remainder being given by the mouth.

Of internal medication, a simple bitter tonic is the chief essential, and this may contain cinchona, in the form of tincture, elixir or fluid extract, as the base. To this I am in the habit of adding strychnine in such proportions that the daily amount taken equals that given subcutaneously. The other ingredients will vary according to the judgment of the physician and the needs of each individual case. There may be hydrastine for its tonic effect on the mucous membranes, especially valuable in the gastric catarrh of drunkards; ammonium chloride for its action on the liver, aloin for its purgative and cholagogue properties, and either the corrosive mercuric chloride or gold and sodium chloride as an alternative and specific remedy. As a considerable proportion of alcoholics are also syphilitics, it is well to make provision for this element in the treatment. So far as I can judge, this is the main benefit to be derived from gold chloride—if, indeed, any such effect is derived. It should not be forgotten, in this connection, that gold is not a proper remedy to be given hypodermically, on account of its local irritant effects, which are very marked. In the treatment of my first case, I made use of gold and sodium chloride in this manner, and found it destructive to the syringe, painful in its immediate

action, and productive of muscular soreness which lasted for many months. It may be added that the tonic remedy should contain no more alcohol than is necessary to insure solution and prevent fermentation. It is surely absurd to medicate with alcohol a patient who is being treated for alcoholism.

As a sedative in cases of insomnia and delirium, a combination of bromides, chloral, and hyoscyamus is of service. Where there is a busy, talkative delirium, hyoscyne hydrobromate hypodermically is indicated. According to Dr. Douglass, before quoted, apomorphine,  $\frac{1}{80}$  grn., subcutaneously, may be relied upon. Occasionally a hypodermic of morphine is needed in urgent cases.

When a patient who is badly intoxicated and troublesome is brought for treatment, it is sometimes advisable to administer  $\frac{1}{10}$  grn. of apomorphine hypodermically, which will cause prompt and copious emesis, and is followed in most cases by several hours of sleep. Ordinarily, however, it is better to administer a brisk cathartic at once, and at the same time begin the regular treatment.

The progress of the first stage of the treatment is marked by three principal landmarks. The first of these, and the chief objective point, is the disappearance of the morbid craving for alcohol. Along with this is usually noted the second, the return of normal appetite and digestion. And lastly we see the coming of natural sleep, which energizes the exhausted nerves, and restores the balance of the system. When these three steps have been taken, the patient is already a long distance on the way towards recovery. I cannot better describe it than in words which I have already used (*Med. and Surg. Reporter*, Dec. 3, 1898) for the same purpose:

"The change which takes place in a man when his abdominal craving for alcohol is leaving him is a very real and wonderful change. While the desire continues the man is gloomy and morose or fault-finding and discontented. Nothing suits him. His temper is uncertain. His word cannot be depended on. He has no normal appetite, and his stomach stubbornly rejects food. His hands shake, his eyes are shifty, and his voice is hoarse and rough. All night he lies tossing and groaning, grasping at phantoms and shrinking from demons. By every test, mental and physical, he is a sick man. But as the craving leaves him, his eye brightens, his skin clears up, the bloat goes down, and the redness leaves his nose. His appetite and digestion return, his temper and disposition improve. He sleeps sweetly and rises refreshed. In his face

shines the light of a new hope, a new confidence in himself, a new purpose in life, replacing the look of despair and disgust which showed there but a few days ago. Then he felt himself to be suffering from the power of a disease which he could not remedy, in the grip of a habit from which he could not free himself; hopeless, helpless, despondent, a slave. Now he sees health coming back to him, hears the sweet voice of hope, is filled with courage, and feels himself free. Henceforward slowly but surely his nervous system regains its balance, and he stands once more a man among men, master of himself."

It has been my usual practice to allow patients to drink as long as they desired, and to stop voluntarily when they no longer cared to continue. By following this method, they more fully realize the effects of the treatment, and their confidence in it is increased thereby. On the other hand, there is danger that they will rely too largely on the purely physiological results of drug medication, and pay too little attention to the weightier matter of right living, physical, mental, and moral. For after all has been said and done, the removal of the craving for drink counts for far less in the treatment of inebriety than does the building up of the power to resist that craving. The one will sober up the man and make him very enthusiastic over his cure for the time; but the other is necessary to permanent sobriety and good citizenship. The one can be produced by means wholly foreign to the system; the other needs the help of gray matter in the brain cells. I therefore impress upon them the advisability of stopping as soon as possible, or of going through the treatment without taking any liquor at all, as a wiser course, than to drink as long as they are able. Looking over the list of my patients to compare the results of the two methods, I am unable to draw any hard and fast conclusions, or make any rule of universal applicability, but am strongly inclined to the very slight use, or even the non-use, of liquor during treatment.

In one case a typical inebriate, whose power to resist was of the weakest, entered so earnestly into the treatment that he refused to drink any liquor, though he continued to crave it for several days, and it was freely offered to him. Within a week he felt the dull gnawing grow less and the craving disappear. He did not drink a drop from first to last. That was in the summer of 1892, and he has been a sober man and a good citizen ever since. There have been one or two times when he has felt a desire for alcohol, but he has learned how to resist.

Another patient was taken from his bed in a half drunken state, only partially persuaded, and brought to my sanitarium for treatment. He drank freely for a week and was ugly all the while. Then he stopped from lack of desire. He had a strong will naturally, and when once thoroughly sober, his will began once more to act on the right side. It was about two years before he felt any desire for drink. Then one night, having a severe toothache, he got up and went downstairs to see if he could find something to relieve it. On the table he saw a bottle of whiskey, which was used by another member of the family for professedly medicinal purposes. At the sight a mighty craving sprang up in his breast, and for the space of about a minute, as he told me afterwards, he had a hard fight with himself. But, as he expressed it, if a man had any sand in him, after he had been sober for a year he ought to be able to let liquor alone. He won the fight and, so far as I know, has never been troubled since.

The record has not in all cases been as favorable as in the two last mentioned. It has now been nearly five years since the last of my cases was treated. Looking back upon my work of the five previous years in this direction, it is safe to say, speaking broadly, that two-thirds of all the men I have treated for alcoholism have sooner or later gone back to their cups, or will do so in the end. And as has been my experience, so, I believe, has been the general experience of others engaged in the treatment of inebriates. This may seem a large proportion of relapses and a small percentage of permanent cures. But what disease of equal seriousness is there known to science in which medical treatment can save more than 33⅓ per cent? And, especially, by what other method of dealing with inebriates can one-third or even one-tenth, be saved? Not the pledge, not temperance organizations, not the church itself, can show so good a record.

In the belief that something might be done to lessen the percentage of relapses, if the causes which lead to them were better understood, I have endeavored to determine these, and also to find some general principles of prognosis by which I might be able, at the close of treatment, to form a reasonable estimate as to the final outcome. My success has thus far been but partial.

**DIARRHEA IN CHILDREN.**—Tannalbin, 2 dr.; resorcin resublimed, 15 grn.; glycerin, 1 oz.; cinnamon water, to make 4 oz. (Shake well.) Dessertspoonful every three or four hours.

[Written for MACK'S ARCHIVES]

## THERAPEUTICS IN TETANUS

By F. K. Day, M.D., St. Paul, Kans.

THE more familiar we are with the conditions present in a case of any disease, and the clearer our conception of the objects of treatment, the more rational will be the therapeutics employed. Tetanus, as has been satisfactorily demonstrated, is the result of the entrance into the body of a poison, or ptomaine, whose action on the nerve center causes all the phenomena presented by a case of that disease; the mode of entrance is through a wound that has been, or still is, infected by a specific bacterium, the tetanus bacillus.

To clearly set forth the conditions presented by a case of tetanus, I know of no better plan than to give a concise history of each of three cases that came under my observation:

Case I.—J. G., colored, laborer, aged forty, admitted to hospital June 15, 1896. Was suffering with an extensive wound involving the outer aspect of left ankle and foot, caused by a severe, deep burn received while sleeping by a camp fire ten days previous to admission; wound had been neglected, the only dressing having been a filthy shirt; much sloughing had taken place, but not much pus was present; parts of the fourth and fifth toes were gangrenous. No history of syphilis, tuberculosis, or nervous affection; physical condition good, but body very dirty. Wound was cleansed and irrigated thoroughly with 1:1000 solution of corrosive sublimate; dressed with iodoform, gauze, cotton and bandage; redressed and irrigated once a day. On the morning of the third day after admission his temperature was 102°; pulse, 108, full and bounding; respiration variable, from 14 to 24; much thirst; complained of soreness over entire body, but especially in muscles of jaws, neck and back; there was a peculiar anxious, distressed expression on the face; it was noticed that the jaws opened in a tremulous, jerky manner and with considerable difficulty. On removing him from his cot to the dressing table there was a sudden, forcible backward jerk of the head and shoulders and the muscles of the neck and back were seen to be drawn and hard; the jerking, he said, caused severe pain. These muscular spasms recurred at intervals of from eight to ten minutes. A spasm could be evoked by any sudden peripheral irritation—stamping the foot, probing with the finger, etc.

Because of insufficient facilities, isolation was very incomplete; wound dressed as usual; enemas of potassium bromide, 30 grn., and chloral hydrate, 20 grn. in milk every three hours. Was started on tetanus antitoxin, but after a couple of injections its use was discontinued and injections of ⅛-grn. doses of eserine sulphate every four hours were substituted. Sweet milk and water given by stomach until deglutition was almost impossible; then per rectum; bowels kept active by use of castor oil. Treatment seemed to have little or no effect, his condition growing steadily worse.

On the morning of the third and last day of the disease his condition was as follows: Almost continuous spasms of the entire muscular system, with but little relaxation between them, the muscles remaining in a state of toxic spasm, being

drawn and hard, and standing out distinctly; jaws could be opened to only about one-quarter inch; muscles of face so drawn that the features were contorted into a grin; body bathed in perspiration; intense thirst, but able to swallow only with difficulty, and then only a few drops at a time; pulse small and irregular, 150 to 160; temperature,  $105\frac{1}{2}^{\circ}$ ; respiration shallow and jerky, and no movement of chest; urine and watery feces voided involuntarily; urine scanty and highly colored. Patient suffered excruciating pain; there was a perfect realization of condition and surroundings. Death at 5:30 the same evening, during severe spasm. A fluttering of the heart was the last movement noticed. Ten minutes after death rectal temperature was  $107^{\circ}$  F.

Case II.—C. N., colored, aged twenty-nine; admitted to hospital July 19, 1897; laborer in packing house; physically perfect; no family history of syphilis, tuberculosis, or any nervous affection. A small, healthy-looking, but slightly inflamed wound on back of right hand inflicted by spicula of bone while handling smoked meat; also an ulcer on front of left leg, the result of a wound; both wounds had been neglected and subjected to constant irritation; body was very dirty. History previous to admission in brief thus: Feeling well on the 14th, he arose on morning of 15th feeling tired, weak, and sore; said soreness was principally in jaws, neck and back; also noticed a peculiar, numb, tingling sensation to pass over the entire body at times. He went to work, but was compelled to stop; arose on morning of 16th, but was feeling so bad he went back to bed; his symptoms consisted of muscular spasms, difficult swallowing, intense thirst, fever, pain, stiffness of the jaws; continued to grow worse each day. On the day of admission, the 19th, his condition was as follows: Violent spasms of seemingly the entire muscular system occurring at intervals of one-half to one minute, and lasting from six to ten seconds. During these spasms every muscle was tense and rigid, the jaws were tightly locked, respiration was suspended, pulse small, rapid, and irregular, and there was marked opisthotonos present. Between spasms there was some relaxation, but the muscles of the jaws, neck, back, and extremities remained in a state of tonic spasm. The spasms were productive of intense pain. Temperature,  $104^{\circ}$  F.; pulse, 120, irregular; respiration very variable, there would occur a short, shallow inhalation followed immediately by a short forcible exhalation, and in other times there would be quite an interval between; breathing wholly abdominal, there being no movement of the chest. During the intervals of partial relaxation the jaws could be opened to about one-quarter inch. The urine was scanty and highly colored, and passed with much difficulty; bowels had not moved for three days, and anus was so tightly closed that a fever thermometer could be introduced only by using considerable force. Deglutition very difficult, could swallow only one or two teaspoonfuls at a time, which caused strangling. Sweating profusely; mind perfectly clear. The spasms were evoked by the slightest irritation, simply speaking suddenly to him being sufficient to cause one.

Practically no isolation; wound thoroughly cleansed and sterilized; antitoxin begun at once and pushed to the limit in dosage; sodium bromide and chloral hydrate, 10 grn. of each, in milk per os every three hours; morphine sulphate,  $\frac{1}{2}$  grn. hypodermatically each evening for three injections; bowels cleaned out by enema of warm soap suds, and kept active by castor oil; water

per os almost constantly. Food: milk and raw egg.

Symptoms began to abate on morning of 20th, and a slow but steady recovery took place. Last indications of spasms noticed on the 26th; gained strength and flesh steadily but slowly.

Case III.—J. A., aged eighteen; first saw him on May 4, 1898; wound of right hand by accidental discharge of shotgun; hand so badly lacerated that there was little hope of saving any but a small portion of the palm and the thumb. Parents, however, insisted on attempt to save the entire member. Administered chloroform, cleansed thoroughly and, as was thought, made the wound aseptic, irrigating with a 1:1000 solution of corrosive sublimate; dry, light dressing; irrigated and redressed once daily. Considerable sloughing took place, but very little pus formed. On fourth day an operation was advised, but patient and parents objected. On the morning of the eighth day it was noticed that there was much restlessness on the part of the patient; he complained of a general stiffness and soreness, but especially of the muscles of the jaws, neck and back; said his jaws seemed stiff and hard to open; there was a peculiar, drawn, distressed expression on the face. On attempting to sit up there occurred a sudden spasm of the muscles of the neck and back sufficient to draw his head and shoulders backward, and was accompanied by a cry of pain. His temperature was  $102\frac{1}{2}^{\circ}$  F.; pulse, 110; respiration about 21; he was continually calling for and drinking large quantities of water; perspiring freely. Tetanus was suspected, the parents so informed, and an operation again insisted on, but they and the patient flatly refused. Determined to see the case to the end, they were told that there were grave doubts of a favorable outcome, and treatment for tetanus began as follows: Isolation as complete as possible; morphine sulphate hypodermatically,  $\frac{1}{4}$  grn. every two hours for three injections; every four hours for remainder of two days;  $\frac{1}{4}$  grn. every three hours for one day; then  $\frac{1}{2}$  grn. every four hours for remainder of time, with exception of the morning of fifth and last day, when two injections of 1 grn. each were given. Potassium bromide and chloral hydrate, of each 20 grn. in milk were given by the stomach every two hours for two days; 30 grn. of each every two hours for one day, then 40 grn. of each per rectum until the end; magnesium sulphate, 2 dr. every three hours; castor oil, 4 dr. in hot milk each evening; water almost constantly. Food: milk and raw egg. Tetanus antitoxin as soon as could be secured—twenty-four hours after onset of symptoms—and to the limit in dosage. On morning of last day attempted to administer chloroform, but it apparently did more harm than good. On second day of disease I had made two double-grooved dental plates of sufficient length and thickness to leave, when inserted between the jaws, a space of about one inch in length and one-quarter inch wide between the teeth in front, thus guarding against their complete closure and giving ample room through which to administer fluids. Treatment, however, seemed to have little effect other than to prolong his sufferings and perhaps delay the end. On the morning of the fifth day of the disease his condition was as follows: Temperature,  $105\frac{1}{2}^{\circ}$ ; pulse about 160, very irregular; respiration jerky and shallow; abdominal breathing; muscular spasms occurring in paroxysms—a severe spasm, an interval of slight relaxation of two to three seconds, then spasm of a little less severity, short interval and another

spasm, and so on for ten or a dozen spasms, then an interval of partial relaxation of from eight to ten minutes, followed by paroxysm—each one being severer than the preceding one. When able to speak he was almost continually calling for water, but was unable to swallow but a few drops at a time. His mind was perfectly clear until within a short period of the end. Death occurred at 10:15 A. M. during a severe spasm. Movement of the heart perceptible for some little time after last respiratory effort.

In the treatment of any diseased condition there are two general objects—to save the patient's life, and to relieve his sufferings. To accomplish the first object we must overcome those conditions that are the cause of death. What then, is the cause of death in tetanus? In examining the record of case II a little farther, I find that on the evening of the 19th, the day of admission, there occurred an unusually severe spasm which lasted fully fifteen minutes. During this spasm every muscle was set, but vibrating and as hard as iron; body rested on head and heels, jaws locked as firmly as a vise, frothing at the mouth, breath coming in short, sudden, shallow gasps; eyeballs turned upwards, conjunctival reflex gone; veins standing out like cords; body bathed in perspiration, great beads rolling off the face and forehead; pulse small, rapid and irregular. For twenty minutes after spasm he lay exhausted and unconscious. Now, had death resulted during this spasm, what would have been the cause and mode of death? The nerve centers are irritated by the toxic agent, a nervous discharge takes place, causing spasms and fixation of the muscles of respiration, and death by asphyxia. The same phenomena take place in poisoning by strychnine, in death during a fatal epileptic spasm, in certain cases of cerebrospinal meningitis. A very simple but nevertheless true example of the stimulation (irritation is simply overstimulation) of the nervous centers producing muscular spasm is seen in the common, everyday happening we term stretching. For a variable period of time the body and nervous system have been at comparative rest, and to a more or less extent oblivious to all surroundings, but suddenly there is, as it were, an awakening; the mind is brought to a realization of the light, the different objects, the noises, all the different sensations; a deep, full breath is drawn, etc., all these striking the several centers act as stimulants, a nervous discharge takes place, and the muscles are thrown into a spasm; the body is bent backward, the breath is held, the jaws are set, and sometimes the spasm of the muscles of the jaws is sufficient to cause actual pain. A spasm exactly similar, but on a much

smaller scale, to the spasms of tetanus has taken place.

To this central irritation, then, we must first direct our attention. There are three ways by which this is to be combated: (a) by fortifying the nervous system against the irritation; (b) by counteracting or destroying the stimulating element, and (c) by hastening its removal from the body.

(a) As the irritation is central we must needs employ central nervous sedatives.—The list of agents belonging to this class is long, but at the head of the list stands morphine. It is the quickest-acting, safest and most reliable. Bring the patient at once under the influence of such doses as the severity of the spasms would indicate, always keeping in mind that the object is not to prevent spasms altogether, but to hold them within bounds. In any case seen at the onset of the symptoms,  $\frac{1}{8}$  grn. hypodermatically every two, three or more hours as your judgment dictates, will be sufficient to produce good results, lessening the spasms in number and severity, and increasing the relaxation between them. The severer the spasms the greater the demand for sedation, hence the doses will be larger and the intervals between them shorter accordingly.

Case I could have taken with advantage  $\frac{1}{4}$  grn. every three or four hours for the first day or so, but would have required larger doses afterwards, even up to 1 grn. at a single dose. Case II would have been greatly benefited by  $\frac{1}{4}$  or  $\frac{3}{8}$  grn. every three or four hours, instead of  $\frac{1}{2}$  grn. every twenty-four hours. Had  $\frac{1}{4}$  been administered every two hours, beginning as soon as he was admitted to the hospital, 12 o'clock, and continued for at least three injections, the severe spasm of the evening of the 19th would undoubtedly have been prevented. Case III received about the proper dosage, and had the attending conditions been similar to those in case II its action would have been ideal. [?]

It is claimed by good authority that potassium bromide and chloral hydrate are of great value in tetanus. Some recommend large doses of each per rectum, as high as 2 dr. of the bromide and 1 dr. of chloral hydrate at each enema. But taking into consideration the fact that in this disease the eliminative action of the lower bowel should be promoted to its full extent, better effect is gotten by the administration of these drugs per os. Two-hourly doses of 20 grn. each in milk or water by way of the stomach will give a surer and steadier action than much larger doses by way of the rectum. Given in this way in connection

with the morphine, these two agents are of great value in producing central sedation.

Numerous other agents have been tried along this line, but as the object is to produce as powerful a sedative action as is possible with safety to the patient, nothing has been proven to their advantage over the three mentioned. As the spasms are evoked by the least amount of peripheral irritation, the patient should be isolated as completely as possible from all irritating surroundings. Too much stress cannot be laid upon the importance of this feature of the treatment. No source of irritation is too trivial to be neglected; a room darkened too much is almost as irritating as one too light; a whisper is more irritating than a clear, distinct tone of voice; a worried, uneasy, doubting expression on the physician's face is productive of great harm, whereas a cheerful look and a few encouraging words are very quieting to the sufferer and productive of much good. The personality of the physician can be of inestimable value in this class of patients. An overzealous and attentive nurse can be a source of great irritation. In fact, the problem of isolation in the treatment of tetanus should be the subject of much thought and attention on the part of the doctor.

The wound, if one exists, is to be attended to. It must be thoroughly cleansed and sterilized. As long as the source of infection is active there is not the shadow of a hope for a favorable outcome. With what hope of success could we expect to treat a case of strychnine poisoning if the drug was being constantly administered? How could we hope to sober up a drunken man who is constantly passing whiskey down his throat? No more can we hope to combat successfully the phenomena of tetanus infection so long as the wound is throwing the ptomaine into the system. If the wound is on an extremity and is of such a nature as to make sterilization impossible, an operation should be performed at the very first indication of tetanus. Every minute of delay brings the patient nearer the grave. If the wound has already healed and there is any indication of inflammation, lay the scar open freely, irrigate with the best antiseptic to be secured, and dress lightly, allowing free access of air.

In case II the wound was sterilized on the 19th and the symptoms began to abate on the morning of the 20th. The sterilization cut off the source of infection.

I am confident that case III could have been saved by an operation on the morning of the appearance of the spasms. It would

have given him more of a chance, at least.

(b) Counteracting, or destroying the irritating element.—It is foreign to this article to discuss the rationale of antitoxin medication, but to my mind it seems perfectly reasonable and consistent with our present knowledge of the cause and phenomena of disease to believe that there should be virtue in serum treatment. Whether or not the present so-called tetanus antitoxin is a true antitoxin I am not prepared to state. It is claimed by good authority and seemingly verified by statistics given, that when its use has been begun early and the remedy pushed to the limit in dosage, it has been of much benefit. The opposite, however, is also true; it is claimed by good authority that its use is of no benefit, but an actual harm.

Its limited use in case I, of course, proves nothing. Whether it exerted any beneficial effects or not in case II is a question, but the balance of evidence is on the negative side. Inject into a person a toxic dose of strychnine, or any toxic agent, and it will require for its entire elimination just about the same length of time that was required by case II to recover from the toxic effects of the tetanus poison—that is, from the time the source of infection was cut off until the last appearance of the spasms. The body evidently got rid of the poisonous element by the natural processes of destruction and elimination. In case III the antitoxin had a fair trial, but it seemed to exert no beneficial effects whatever. Its administration in this case proves conclusively one of two facts: it either had no effect on the ptomaine or, as we have contended, the wound was continually furnishing a new supply.

Great claims have been made by some clinicians as to the virtue of carbolic acid in this disease. It is recorded by Ascoli, an Italian, that of thirty-four cases treated with carbolic acid, there was only one fatal case, and that this one death was the result of too small dosage. It is to be given hypodermatically in two-hourly doses of a 2-per cent. solution, beginning with a total of about 3 grn. in the twenty-four hours and rapidly increasing the daily quantity to as high as 40 to 50 grn. It is claimed that its action for good is the result of its combination with the ptomaine, holding it in such a union that its action is destroyed; it is also claimed that these cases can take the very large dosage without any untoward results from the acid. The one claim apparently substantiates the other. It is, however, a well-known and verified fact that, if begun in small doses largely diluted



and gradually increased, the human system will tolerate enormous quantities of carbolic acid, as high as 1 dr. having been given in the twenty-four hours to a tuberculous patient with no bad results from the acid, and, incidentally, no good ones either. It is possible, however, that, even though it may not exert a direct effect upon the ptomaine to destroy it, it may have a powerful sedative action on the irritated centers. Injections of extract of brain substance is another remedy that has been tried in tetanus cases, but its use occupies about the same position as the antitoxin, some claiming that it is beneficial, others that it is not. Just how it is supposed to exert its action for good, I am unable to state.

So far as I am aware, these three agents—antitoxin, carbolic acid, and brain extract—are the only remedies that have been accredited with virtue to counteract or destroy the tetanus ptomaine.

(c) Assisting in the elimination of the irritating element.—The chief agent for this purpose is water. Give the patient all the water he can and will take. It increases all the secretions and excretions; it dilutes the poison within the body, thus rendering it less potent. Give a  $\frac{1}{8}$ -grn. dose of morphine to a patient whose body has been depleted of a large proportion of its water, and the small dose will have as great an effect as a larger one given to the same patient when the body has its normal supply of water. The same rule applies to the tetanus poison, or in fact to any toxic agent. The more water that can be gotten into the circulation of these patients, the less potent will be the ptomaine circulating therein.

To aid also in the elimination there is nothing better than large doses of a saturated solution of magnesium sulphate. This is absorbed by the stomach, passes into the circulation, and is poured out into the lower bowel together with a large quantity of water. Also an occasional (say, every other day) dose of  $1\frac{1}{2}$  to 2 oz. of castor oil, which passes through, cleaning out the entire intestine. The oil is best given in hot milk, which, to a great extent, disguises the bad taste. All possible means to hasten the elimination of the poison should be employed.

Feeding and administering medicine to these cases is not the least difficult problem in their management. Most cases, when under the influence of the morphine, bromide and chloral are able to take fluids per os. If the case is seen at the onset of the disease and bids fair to be a severe one, the complete closure of the jaws can be guarded against by the insertion (when the proper

time comes) of two dental plates as described in case III. However, when the case is so severe that the jaws are firmly locked, deglutition is well-nigh impossible and medication must be carried on subcutaneously and per rectum.

A good part of the second object of treatment—the relief of the patient's suffering—has already been touched upon in the foregoing line of treatment, and very little need be added. During the decline of the symptoms the constant pain in the muscles can be relieved by gently kneading them.

As food nothing but fluids, and there is nothing better than milk and raw eggs. The yellow of the egg can be given in the milk and the white in ice water. Much care and patience are required successfully to administer food and medicine to tetanus patients, as slight carelessness and neglect greatly reduce the chances for recovery.

[Written for MERRICK'S ARCHIVES]

## AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Björkman, A.M., M.D.,

Professor of Physiology, Milwaukee Medical College

(Continued from page 344, September issue)

**ADENITIS.**—First care should be to remove a possible cause of the enlargement of the glands: an ulceration, a boil, or an inflammatory irritation in centrifugal direction of the involved gland. If no visible cause, the diathesis should be examined into—lues, tuberculosis, or other constitutional diseases—and treatment applied according to such conditions. In the early stage of acute adenitis, before suppurative signs are present, cold should be applied to the swollen glands or a compress wet with a solution of formaldehyde, carbolic acid, or sublimate, which quite often arrests the induration and prevents the formation of pus. If suppuration already exists, the involved gland or glands should be freely opened, evacuated, and treated as advised under Abscess.

In chronic adenitis, general tonics according to the causal ailment should be administered. Inunctions of green soap every other or third day should be tried when tuberculosis is suspected and iodipin given internally. The most reliable treatment is the radical extirpation of the glands (so well described in the surgical works of Senn).

- (39) Ammon. Chlor..... 5. (75 grn.)  
 Camphor. Trit..... 1. (15 grn.)  
 Adipis Lanæ..... 30. (1 oz.)  
 Externally.



- (40) Iodi Puri.....0.5 (8 grn.)  
 Potassii Iodidi.....2.5 (40 grn.)  
 Aquæ Dest.....2. (30 min.)  
 Adipis Lanæ.....20. (5 dr.)  
 Externally.
- (41) Saponis Viridis.....90 (3 oz.)  
 For methodical inunctions every two or three days (from 5 to 15 Gm. at a time).
- (42) Iodoformi.....6. (90 grn.)  
 Bals. Peruvian.....2. (30 grn.)  
 Adipis Lanæ.....8. (2 dr.)  
 Externally.

In inguinal bubo, where total extirpation is not necessary or not wanted, the method of Welander is very effective: He injects  $\frac{1}{2}$ -per-cent. solution of mercuric benzoate (0.5 to 100 Aq.+0.2 sodium chloride) in the bubo and applies a compressing bandage on the indurated glands. The injected dose is 0.01. If the inguinal adenitis is already suppurating, a free incision should be made, then curetted and cleansed with Credé's silver salt. Packing with iodoform, or other antiseptic gauze and compress-bandage. Iodoform bougies may be introduced.

- (43) Glycerini.....Gtts. x. (10 drops)  
 Aquæ Dest. Steril..Gtts. xvi. (16 drops)  
 Tragacanthæ.....1. (15 grn.)  
 Iodoformi.....12. (3 dr.)  
 Make bougies of one-twelfth inch diameter. Dispense in well-corked, dark-colored bottle. Of these bougies longer or shorter pieces may be used, according to the depth of the fistula.
- (44) B-Naphtoli,  
 Camphoræ, aa.....10. (2½ dr.)  
 Spiritus (60%).....40. (10 dr.)  
 A few drops to be injected hypodermically here and there throughout the indurated glandular mass.

AGRYPNIA.—See Insomnia.

ALBUMINURIA.—See Morbus Brightii.

ALCOHOLISMUS ACUTUS (Acute Alcoholic Delirium. See Delirium Tremens).—The first care in acute alcoholism should be to empty the stomach of remaining liquor by means of the stomach pump, or by hypodermic injection of apomorphine (form. 45) if the intoxication is slight and no collapse is present. Stomach should be washed with large amounts of warm or tepid water, warm milk given in abundance, and if symptoms of collapse exist stimulants should be applied, best in form of ammonia, cinnamon, cardamom, or ginger added to the milk. If emesis is severe, lime-water should be added to the warm milk, or rice- or barley-water given freely. Heat to be applied to the abdomen and feet. No alcoholic stimulants.

- (45) Tab. Hypoderm. Apomorph.  
 Mur.....0.006 ( $\frac{1}{16}$  grn.)  
 To be dissolved and injected hypodermically. (In severe insomnia, one third of this dose hypodermically injected may produce some few hours' sleep.)

- (46) Fl. Extr. Ipecacuanhæ.....15. ( $\frac{1}{2}$  oz.)  
 Ten drops every fifteen minutes until free emesis is produced.
- (47) Spir. Ammon. Aromat.....8. (2 dr.)  
 Spir. Camphor.....6. (1½ dr.)  
 Tinct. Hyoscyami.....10. (2½ dr.)  
 Spir. Lavandulæ Co., ad.....60. (2 oz.)  
 Teaspoonful every hour.
- (48) Ammon. Carbon.....5. (75 grn.)  
 Aq. Dest.....90. (3 oz.)  
 Syrupi Althææ, ad.....120. (4 oz.)  
 Tablespoonful every hour.

If syncope is threatening:

- (49) Camphoræ.....1. (15 grn.)  
 Ætheris.....2. (30 grn.)  
 Olei Olivæ. Opt.....8. (2 dr.)  
 One-half of a hypodermic syringe or more for subcutaneous injections until heart-action is restored.
- (50) Sodii Brom.....15. ( $\frac{1}{2}$  oz.)  
 Chloral Hydrat.....10. (2½ dr.)  
 Syrupi Aurantii.....20. (5 dr.)  
 Aquæ Dest., ad.....120. (4 oz.)  
 Teaspoonful at bedtime and repeated during night if necessary. (For insomnia.)

ALCOHOLISMUS CHRONICUS.—(Not to be confounded with acute alcoholic delirium or delirium tremens.) By alcoholism chronicus we mean the complex of pathological symptoms and conditions that the continued ingestion of liquor leads to. The first therapeutic rule is entire discontinuance of alcoholics. As chronic alcoholism is a psychological disease that consists mostly in a paralysis of the inhibitory power of the will, the development and strengthening of the will-power is a very important measure.

Specific cures (Keeley's gold treatment, etc.) are only effective as long as the patient uses his will-power. The curative tendency thus should be to restore and strengthen the weakened functions with nerve tonics, to quiet and strengthen the digestive apparatus by gentian, calumba, strychnine, quassia, or cinchona; exercise in open air, baths and massage. Good company is one of the most important factors—"good" especially in the sense of temperate. All temptations to be guarded against! Here, if ever, the individuality of a patient should be considered and dealt with sagaciously and considerately. An intelligent physician with a strong will may personally reach farther than the most highly lauded drugs and cures.

- (51) Tab. Hyp. Strychn. Nitr. 0.003 ( $\frac{1}{32}$  grn.)  
 Dissolve in distilled water (sterilized) and inject hypodermically once a day; or:
- (52) Tab. Hyp. Strychn. Nitr. 0.003 ( $\frac{1}{32}$  grn.)  
 Atropine Sulphate.....0.0003 ( $\frac{1}{300}$  grn.)  
 Inject hypodermically once or twice a day.

If pronounced symptoms of degeneration (heart and other organs), the strychn-

nine should not be resorted to hypodermically. Also contraindicated in cirrhosis of the liver.

- (53) Extr. Nuc. Vom..... 0.5 (8 grn.)  
 Alcoholis..... 5. (75 min.)  
 Acidi Phosph. Dilut..... 10. (2½ dr.)  
 Ten drops three times a day. (In chronic catarrh of the stomach.) Or:  
 (54) Strychn. Nitrat..... 0.1 (1½ grn.)  
 Acid. Phosph. Dil..... 10. (2½ dr.)  
 Aquæ Ammoniacæ..... 5. (75 min.)  
 Six to ten drops three times a day. (To produce distaste for liquors.)  
 (55) Tab. Hyp. Atrop. Sul... 0.0004 (1/100 grn.)  
 Dr. tal. No. x.  
 One to be dissolved and injected hypodermically three or four times a day. (Often produces distaste in a few days.)

Fresh fruits, emetics, or a cup of hot tea, coffee or cocoa are occasionally sufficient to check the desire for liquor temporarily.

For insomnia a hot, wet pack is good, or:

- (56) Tab. Hypod. Hyoscini  
 Hydrobromat..... 0.0003 (1/300 grn.)  
 Dissolve and inject hypodermically with great care. (Dose may cautiously be increased to 1/100 or rarely 1/50 grn. (0.0006 or 0.0012). As mentioned above (under form 45), a very small dose of apomorphine may sometimes serve as well as a sedative.)

Chloralose in 0.6 (10 grn.) doses is a somewhat effective hypnotic when given in hot water. A combination of chloral and bromides often serves well in alcoholic insomnia:

- (57) Potassii Brom.,  
 Chloral Hydr., aa..... 6. (90 grn.)  
 Aquæ Dest..... 60. (2 oz.)  
 Syrupi Aurantii, ad..... 90. (3 oz.)  
 Two tablespoonfuls at once before going to bed.

#### ALOPECIA. A. AREATA.—

- (58) Liq. Potassii Arsenitis.... 2. (30 min.)  
 Aq. Dest..... 135. (4½ oz.)  
 Alcoholis, ad..... 180. (6 oz.)

About a tablespoonful to rub into the scalp once a day.

- (59) Hydrarg. Chlor. Corrosivl. 0.5 (8 grn.)  
 Glycerini,  
 Spir. Coloniens., aa..... 75. (2½ oz.)  
 Aquæ Dest., ad..... 300. (10 oz.)

After shampooing with tar soap, cleansing first with luke-warm, then cold water, the above remedy is to be well rubbed in. Then the following remedy is to be rubbed in with flannel until scalp becomes dry:

- (60) B-Naphtoli..... 0.5 (8 grn.)  
 Alcoholis Absoluti..... 90. (3 oz.)  
 As directed.

- (61) Tinct. Benzoini..... 5. (75 min.)  
 Spir. Ætheris..... 45. (1½ oz.)  
 To be rubbed into the scalp twice a day.

- (62) Spir. Lavandulæ..... 120. (4 oz.)  
 Acidi Salicylici..... 0.5 (8 grn.)

After shampooing with tar soap, this liniment is rubbed into the scalp before retiring in the evening. Next morning following salve is applied:

- (63) Balsami. Peruviani,  
 Acidi Salicylici,  
 Resorcini, aa..... 1. (15 grn.)  
 Sulphur. Præcipit..... 10. (2½ dr.)  
 Adipis Lanæ,  
 Vaselini, aa..... 60. (2 oz.)  
 As directed.

- (64) Eucalyptolis (Merck),  
 Olei Terebinth., aa..... 15. (4 dr.)  
 Petrolei Crudi,  
 Alcoholis, aa..... 30. (1 oz.)  
 To be rubbed into the bald spots, followed by thorough massage of the scalp.

- (65) Tr. Cantharidis..... 5. (75 min.)  
 Tr. Arnicæ,  
 Spir. Vini Gallici, aa..... 75. (2½ oz.)  
 Glycerini, ad..... 180. (6 oz.)  
 Rub into the scalp at bedtime.

- (66) Acidi Carbolic..... 1. (15 grn.)  
 Alcoholis..... 30. (1 oz.)  
 Glycerini,  
 Ætheris, aa ad..... 75. (2½ oz.)  
 For washing the scalp.

- (67) Tr. Cantharidis..... 10. (2½ dr.)  
 Spir. Sinapis..... 0.5 (8 min.)  
 Alcoholis..... 60. (2 oz.)  
 Olei Amygdal. Volatilis,  
 Olei Aurant. Flor.,  
 Olei Lavandulæ, aa..... Gtts. v (5 drops)  
 To rub into the scalp every three days.

#### ALOPECIA COMMUNIS (Ordinary Baldness).—

- (68) Chloral Hydratis..... 25. (6½ dr.)  
 Spir. Vini Gallici..... 240. (8 oz.)  
 To be rubbed thoroughly into the scalp.

- (69) Tr. Cantharidis..... 6. (1½ dr.)  
 Olei Ricini..... 60. (2 oz.)  
 Olei Bergamot..... 1.5 (24 min.)  
 Rub into the scalp.

- (70) Acidi Tannici..... 2.5 (40 grn.)  
 Olei Sabinæ..... 1.2 (20 min.)  
 Bals. Peru..... 3. (45 grn.)  
 Alcoholis, ad..... 120. (4 oz.)

Add a teaspoonful of this mixture to a tablespoonful of alcohol and use for inunctions of the scalp.

- (71) Olei Rusci,  
 Alcoholis, aa..... 30. (1 oz.)  
 Olei Sabinæ..... Gtts. xii (12 drops)  
 To be rubbed into the scalp.

- (72) Potass. Carbon..... 2. (30 grn.)  
 Glycerini..... 20. (5 dr.)  
 Aquæ Rosæ, ad..... 90. (3 oz.)  
 Tablespoonful or two to be rubbed into the scalp once a day.

Syphilitic alopecia gradually disappears under general specific treatment. A speedier result might be attained by also using the following lotion every other day as a hair tonic:

- (73) Hydrarg. Chlor. Corrosiv..... 0.5 (8 grn.)  
 Aquæ Coloniensis..... 240. (8 oz.)  
 (Dispense with poison label.) Externally, for the scalp.

In alopecia of myxedematous origin the restoration of the hair will result from general treatment with thyroid extract—2 tablets a day for several months.

AMENORRHEA.—Suppression of menses is a symptom either of local or constitutional disorders, or of existing pregnancy. Pathological arrest of menstruation is most generally caused by chlorosis, anemia (pernicious or idiopathic), leukemia, exposure to colds, rheumatic diathesis, sea voyages, and by local causes. After thorough exclusion of the general causes, the local disorders (metritis, endo- and parametritis, etc.) should be looked into.

- (74) Liq. Ferri et Quininae Citratis. 30. (1 oz.)  
 Liq. Ac. Arsenosi.....12. (3 dr.)  
 Atropinae Sulph., aa..... 0.03 ( $\frac{1}{2}$  grn.)  
 Strychninae Sulph., aa..... 0.03 ( $\frac{1}{2}$  grn.)  
 Elix. Aurantii, ad.....240. (8 oz.)  
 Teaspoonful in water before meals, three times a day.

Should menstrual discomfort manifest itself after this medication, following pills are to be given:

- (75) Potass. Permangan. ....0.6 (10 grn.)  
 Vaselini.....1. (15 grn.)  
 Paraffini,  
 Cereæ Albæ, aa.....0.5 (8 grn.)  
 Bol. Albæ.....1.5 (24 grn.)

Divide in pil. æquales No. xx.

Two pills followed by half a glassful of water, three times a day, before meals; or;

- (76) Mangani Dioxid.....0.6 (10 grn.)  
 Divide in capsules No. x.

One capsule after each meal (three times daily), followed by half a glass of water. (Warm baths and hot vaginal injections, sinapisms to the legs, and saline laxatives increase the action of this treatment.)

In amenorrhea after sea-voyages, manganese is active; also peptonate of iron with manganese. Oxalic acid is considered a powerful restorer.

- (77) Acidi Oxalici..... 0.25 (4 grn.)  
 Ferri Peptonat..... 3. (45 grn.)  
 Mangani Peptonat..... 10. (2½ dr.)  
 Elix. Curaçoa..... 60. (2 oz.)  
 Aquæ Dest.....180. (6 oz.)

Tablespoonful in a glass of milk three times a day.

Strong and rich diet, spinach especially to be recommended. The amenorrhea in chlorotic subjects should be treated with tonics and blood-producers, fresh air, and plenty of light exercise and occupation in sunlight. Very important is the regulation of the bowels. The manganese preparations are here also of value, but better still is the action of santonin, in 1 or 2-grn. doses, before meals.

- (78) Tinct. Senecio. Vulgaris.....60. (2 oz.)  
 Teaspoonful three times a day, or more if needed.

If the object is to increase a scanty flow, the preparations of senecio Jacobea are very serviceable and effective.

- (79) Potass. Permanganitis.....1.5 (24 grn.)  
 Kaolini.....0.5 (8 grn.)  
 Adipis Lanæ, q. s. ut ft. pil. No. xxiv. Consperge c. talco.

One pill after meals.

- (80) Extr. Aloës..... 1. (15 grn.)  
 Extr. Myrrhæ,  
 Croci Oriental. Pulv., aa. . . 4. (1 dr.)  
 Ammon. Chlor..... 2.5 (40 grn.)  
 Galbani.....12. (3 dr.)

Divide into 2-grn. pills and dust with cinnamon powder.

Five pills morning and night.

- (81) Acidi Arsenosi.....0.04 ( $\frac{3}{4}$  grn.)  
 Piperis Nigri.....1.5 (24 grn.)  
 Glyceriti Amyli, q. s. ut ft. pil. æquales No. xl.  
 Consperge c. cinnamomi pulv.

One pill after meals (three times a day).

- (82) Aloës..... 20. (5 dr.)  
 Myrrhæ..... 6. (1½ dr.)  
 Croci Oriental..... 3. (45 grn.)  
 Rad Rhei..... 15. (4 dr.)  
 Acidi Hydrochlor..... 12. (3 dr.)  
 Vini Xerensis.....200. (6½ oz.)

Macerate and filter. Teaspoonful four times a day.

Of modern blood-producers in chlorotic conditions, iron-somatose may be mentioned; for adults a dessertspoonful three times a day, in milk, or beef-broth.

For other remedies, see Chlorosis. If the amenorrhœa appears in a rheumatic subject, good results are often derived from the following:

- (83) Tr. Guaiaci Ammon.....60. (2 oz.)  
 Teaspoonful in milk three times a day.

- (84) Tr. Colchici Radicis.....30. (1 oz.)  
 Ten drops every three hours until the bowels become free.

Sodium salicylate, from 1 to 3 Gm. (15 to 45 grn.) may give good results in a case with a rheumatic diathesis; so may also apiol in 1-grn. pills; 4 pills a day for two weeks. Faradization and static electricity may prove effective. Ovarian extract per os requires further trials.

ANÆMIA (disease or symptom manifesting itself by deficiency of certain blood constituents, particularly red corpuscles).—As long as anemia is a symptom the causes should be sought for—female disorders, digestive and alimentary disorders, loss of blood, too long lactation, ptomaine poisoning, malaria and lead poisoning, poor hygienic conditions. The treatment must include good, strong nourishment, rest and fresh air. The most important measure in most forms of anemia is regulating the bowels. When the cause or the causes of anemia are removed, the medication is: iron in different forms, or arsenic. The most satisfactory form of iron is Blaud's pills, but the condition of stomach and bowels must be very carefully attended to. (See also Catarrhus Ventriculi et Intestin.)

- (85) Pil. Blaudi No. 1.

One pill after meals and before retiring. Dose may gradually be increased.

- (86) Ferri Sulphatis,  
Sodii Bicarbon., aa.....5. (75 grn.)  
Extr. Calami, q. s.  
Ft. lege artis pil. æquales No. L.  
Three pills after each meal. (Modified Bland's pills.)
- (87) Ferri Pyrophosph.....4. (1 dr.)  
Sodii Arsenatis.....0.06 (1 gr.)  
Quin. Sulph.....1. (15 grn.)  
Ext. Nuc. Vom.....0.5 (8 gr.)  
Aloini.....0.3 (5 gr.)  
Divide in pil. No. xxx.  
One pill two or three times a day.
- (88) Ferri Oxalatis,  
Pulv. Rhei, aa.....0.06 (1 grn.)  
Pulv. Aromatici, q. s.....0.3 (5 grn.)  
Dr. tal. dos. (ad chartas) No. xx.  
Two or three powders a day after meals.
- (89) Ferri Reducti.....0.09 (1 ½ grn.)  
Pulv. Aromatici.....0.5 (8 grn.)  
Dr. tal. dos. No. xx.  
One powder three times a day.
- (90) Ferri Reducti.....15. (4 dr.)  
Pulv. Colombo.....5. (75 grn.)  
Pulv. Rhei,  
Pulv. Cinnamomi, aa.....2.5 (40 grn.)  
Extr. Quassiae, q. s. ut ft. massa, e qua formentur pil. pond. 0.2. Consp. c. cinnamomi.  
Three or four pills three times a day after meals.
- (91) Ferri Citratis.....5. (75 grn.)  
Pulv. Rad. Althææ, q. s. ft. pil. æqual. No. c.  
Two pills three or four times a day.
- (92) Ferropyrini.....0.5 (8 grn.)  
Aq. Dest.....180. (6 oz.)  
Teaspoonful five or six times a day.
- (93) Hemogalloli.....0.25 (4 grn.)  
Dr. tal. dos. ad caps. sive in forma trochisc. No. xx.  
One or two fifteen minutes before meals.
- (94) Ferri Lactatis,  
Extr. Gentianæ, aa.....5. (75 grn.)  
Quininæ Sulph.....2.5 (40 grn.)  
Pulv. Althææ, q. s. ut ft. pil. æqual. No. c.  
Two pills three times a day after meals.
- (95) Ferri et Ammon. Citratis. ....5. (75 grn.)  
Tr. Aurantii Cort.,  
Syr. Simpl., aa.....12. (3 dr.)  
Vini Xerensis, ad.....90. (3 oz.)  
Teaspoonful three times a day.
- (96) Ferri Oxid. Dialysati,  
Pulv. Rhei, aa.....5. (75 grn.)  
Extr. Calami, q. s. ut ft. pil. No. L.  
Two pills three or four times a day.
- (97) Mangani Sulphat.....2.5 (40 grn.)  
Ferri Sulph.....7.5 (2 dr.)  
Sodii Carbon.....12. (3 dr.)  
Mellis Despumati.....6. (1 ½ dr.)  
Div. in pil. pond. 0.2 et consp. c. cinnam.  
Two pills three or four times a day after meals.
- (98) Acidi Arsenosi.....0.002 (1/100 grn.)  
Ferri Reducti.....0.2 (3 grn.)  
Extr. Nuc. Vom.....0.02 (½ grn.)  
Extr. Taraxaci, q. s. ut fiat pilula.  
Dentur tales pil. No. xxx.  
One pill after each meal, with half a glass of water.
- (99) Liq. Potassii Arsenitis.....4. (1 dr.)  
Tr. Nuc. Vom.....5. (75 min.)  
Tr. Ferri Pomati.....120. (4 oz.)  
Teaspoonful three times a day after meals.

(100) Liq. Potass. Arsen.....15. (4 dr.)

From 2 to 4 drops at a dose, increasing after some days gradually to 8 drops, then returning gradually to 2. Should be taken twice or three times a day, after meals, with water.

(101) Liq. Mangan-Ferri Peptonat. 180 (6 oz.)

(102) Ferri et Quin. Citr.....10 (2 ½ dr.)

Ft. pil. æquales No. L.

One pill three or four times a day.

The natural spring waters of Levico (containing iron and arsenic) often do more to relieve an anemia than pharmaceutical preparations. Extract of spinach and nettle-soup (prepared from roots and stalks in the early spring, from *Urtica urens* and *Urtica dioica*), given every or every other day, has resulted in great benefit. A scientifically administered, mild massage of the muscles, cold sponging with subsequent massage, hot cabinet baths with cold douches and weak currents of electricity, have also given very promising results. Feeding with bone-marrow has given variable results, and the reports concerning its value as a curative agent are too vague yet to deserve recommendation. In many cases the cure of anemia is more quickly effected if some intestinal antiseptic is given simultaneously with chalybeates; for instance naphthol, salol, guaiacol carbonate, etc. They should be given then in full and effective doses. (See also under Chlorosis).

ANEMIA PERNICIOSA.—Arsenic is the remedy, if there is a remedy. Iron should be avoided; in some cases it is actually contra-indicated and should not even be tried. Distilled liquors should be avoided; beer and malt beverages may be allowed. The physician should always bear in mind that two years' treatment is the minimum for lasting results and recovery. Rest in bed, intestinal irrigations, and saline laxatives. If urine contains excesses of indoxyl-sulphuric acid (indican), intestinal antiseptics in good doses should be given, especially thymol and salol. Red-bone marrow and glycerin (equal parts) may sometimes lead to good results. The red marrow should be raw and may be flavored with claret. Subcutaneous injection of physiological salt-solution is to be preferred to transfusion. Protonuclein is a remedy that can do no harm, but very much good (3-grn. tablet to be given every three hours, later every two hours). Mild massage is also valuable. Fresh air and mental rest.

(103) Liq. Potass. Arsenitis.....30. (1 oz.)

Three drops three times a day after meals. Increase 1 drop every day until 20 or 30 drops are being taken after each meal.

Look out for symptoms of arsenic poisoning, and if they appear withdraw the rem-

edy. Excellent results are sometimes obtained.

If iron has to be given, preference should be given to Levico or Roncegno water, or a combination of arsenic and iron:

- (104) *Ferri Reducti*..... 3. (45 grn.)  
*Acidi Arsenosi*..... 0.06 (1 grn.)  
*Piperis Nigri*,  
*Rad. Glycyrrhizæ*, aa..... 1.5 (24 min.)  
*Ft. pil. æquales* No. XL.  
 One pill three times a day after meals.

- (105) *Troch. Protonucleini*, No. L.  
 One every two or three hours.

**ANASARCA (Integumental Dropsy).**—See under *Hydrops*.

**ANCHYLOSTOMUM DUODENALE** (a genus of nematoid worms found in the intestines).—As a prophylactic the drinking-water should be thoroughly boiled before using. The best remedy, when the diagnosis is made, is considered to be thymol.

- (106) *Thymoli Pulv.*..... 0.5 (8 grn.)  
*Disp. tal. dos. No. xv ad capsulas amylaceas.*  
 One powder or cachet four times a day or more until effect is produced.

A heroic but successful treatment is to give 2 Gm. (30 grn.) at 8 A. M., and repeat the dose about 10 A. M. Best to be taken in a drink of brandy. At 12 o'clock a good dose of castor oil is given, and the feces should be investigated for several days until no more eggs of the parasite appear. The diet during the time of medication should be milk and soups. This treatment may be repeated once or twice until microscopical examination of the excrements shows that no eggs can be found. Watch the kidneys in thymol-treatment. To guard against anemia or to cure this disorder, a weak iron preparation should be given.

**ANEURYSMA.**—The treatment of the different types of aneurysms comes within the territory of surgery rather than that of medicine. Where a syphilitic diathesis is suspected, the administration of antileptic agents should always be tried. In the first place then, come potassium iodide and mercurials (see under *Syphilis*). Calcium salts have also proven to be of great benefit. Lately, subcutaneous injections of gelatin have given good results even in very advanced aneurysms. Calcium is given in form of calcium chloride in doses of 4 Gm. (1 dr.) daily. Recumbent position for three months is recommended highly. Rest and restriction of liquids very important.

- (107) *Potassii Iodidi*..... 10. (2 1/4 dr.)  
*Tr. Digitalis*..... Gtt. c. (100 drops.)  
*Syr. Simpl.*..... 45. (1 1/2 oz.)  
*Aquæ, q. s. ad*..... 300. (10 oz.)  
 Tablespoonful three times a day.

- (108) *Potassii Iodidi*..... 4. (1 dr.)  
*Aquæ Dest.*..... 180. (6 oz.)  
 Tablespoonful three times a day in milk before meals.

Gelatin injections: After thorough disinfection of the skin (abdomen, pectoral or gluteal region) 100 to 200 Cc. of the gelatin solution is slowly injected hypodermically. The solution must be made of the purest white gelatin, of 2 per cent. strength, not with plain water, but physiological salt solution (0.6 per cent). The gelatin is slowly allowed to dissolve at boiling-water heat. Treatment should be repeated every day, or every other day, according to patient's constitution or general condition.

Diet (according to Tuffnell): 2 oz. of bread and butter and 2 oz. of milk for breakfast; 3 oz. of meat and 4 oz. of milk or claret for dinner; 2 oz. of bread and 2 oz. of milk for supper.

**ANGINA CROUPOSA.**—See *Diphtheria*.

**ANGINA PECTORIS (Stenocardia).**—The differential diagnosis between this disease and the pseudo-angina is of high importance. Angina-pectoris paroxysms are brought on by effort, emotion or digestive disorders in subjects generally past forty years; attacks appear mostly in daytime. Patient is pale, very quiet, and most often complains of pain in the precordial region. Prognosis is always very serious. All symptoms above mentioned exclude the presence of pseudo-angina, the prognosis of which always is good. The treatment of angina pectoris is of twofold nature: (a) symptomatic, or tending to stop or shorten an existing paroxysm, and (b) systemic, with a view to prophylaxis. The hygienic and dietetic measures are very important parts of the prophylaxis. (See below.) The symptomatic treatment is to administer certain vaso-dilatory remedies and to relieve spinal hyperemia. The sovereign remedy in this respect is amyl nitrite.

- (109) *Amyl Nitritus (Merck)*..... 15. (4 dr.)  
*Dr. ad vitr. nigr. epistomio vitreo clausum.*

From 5 to 10 drops on a piece of cotton in the bottom of an empty glass to be inhaled until relief, or simply inhaled from a handkerchief.

The remedy is also put up in some small glass pearls, easy to break in a cloth or handkerchief, and may in this form be carried by the patient always ready for use. If this treatment should fail to give relief in some few minutes, nitroglycerin has to be resorted to.

- (110) *Tablet. Nitroglycerini*... 0.0006 (1/100 grn.)  
 One to be dissolved and hypodermically injected.  
 (May also very properly be given per os.)  
 (111) *Spiritus Glonoini*..... Gtt. x. (10 drops.)  
*Aquæ Laurocerasi*..... 12. (3 dr.)  
 Twenty drops to be injected subcutaneously.

Small blisters (points de feu) should also be applied to the precordium. If syncope sets in, hypodermic injections of ether, 10 per cent. camphorated oil, or caffeine are to be tried.

(112) *Ætheris Puriss.*.....15. (4 dr.)  
Dr. ad vitrum nigrum collo amplo (dispense in wide-mouthed bottle).

Twenty-five drops or more subcutaneously.

(113) *Camphoræ*.....1. (15 grn.)  
*Olei Olivæ*.....9. (2 1/4 dr.)

Dr. ad vitrum bene sterilisatum.

Twenty-five drops or more subcutaneously.

(114) *Sodii Benzoatis*.....3. (45 grn.)  
*Caffeinæ*.....2.5 (38 grn.)  
*Aquæ Dest.*, q. s.....10. (2 1/2 dr.)

Solve et filtra.

Twenty drops hypodermically or more if need be. (One Pravatz syringeful contains 4 grn. caffeine.)

(115) *Camphoræ*.....1. (15 grn.)  
*Ætheris*.....2. (30 min.)  
*Olei Olivæ*.....8. (2 dr.)

One or two Pravatz syringefuls hypodermically, repeated two or three times a day. ("Pravatz syringe" is the ordinary hypodermic syringe, containing exactly 1 Cc. of water when filled.)

Chloroform inhalations for relieving the pain in a paroxysm are advised by reliable clinicians; so are ether inhalations. Morphine injections are also highly recommended, but if myocarditic symptoms are present, morphine is contraindicated. If given, the combination with atropine and strychnine is to be preferred. In collapse, inhalation of oxygen has given good results. The most efficient formula of oxygen in these cases is: pure oxygen, 2 parts; nitrous monoxide, 1 part, and ozone, 1 per cent. These inhalations, in combination with an ice-bag to the spine (from fourth dorsal to third lumbar vertebra) are highly recommended by B. Kinnear (see below) to relieve a paroxysm.

The prophylactic treatment tends so to change the system, that causes of the evil (atheromatous condition of the arteries, particularly the coronary arteries; hyperemic condition of the spinal sensory centers, etc.) may be removed or at least diminished. Among the most effective remedies in this respect is potassium iodide, given in 15-grn. doses, three times a day before meals, in half a glassful of water, and continued for eighteen days of each month. Nitroglycerin, 1/100 grn. may be substituted for the daily doses of potassium iodide.

(116) *Potassii Iodidi*.....6. (1 1/2 dr.)  
*Potassi Bromidi*.....3. (45 grn.)  
*Aquæ Dest.*.....120. (4 oz.)  
*Aquæ Menthæ Pip.*, ad .....180. (6 oz.)

Tablespoonful three times a day, before meals.

(117) *Potass. Iodidi*.....6 (1 1/2 dr.)  
*Aquæ Dest.*.....25. (6 dr.)  
Thirty drops in a wineglassful of milk or water before meals.

A more modern, but quite effective remedy is erythrol tetranitrate. It has been used lately with good results, not in aborting a paroxysm, but in preventing the onset of the attacks. The tetranitrate is most properly given in tablets containing 0.03 (1/2 grn.), two times a day (six hours intervals) for long periods.

(118) *Troch. Erythrol-Tetranitratls.* 0.03 (1/2 grn.)

Dr. tal. troch. No. xxx.

One tablet every four hours; or two tablets every six hours.

Taken in alcoholic solution, the tetranitrate works more rapidly but often irritates the stomach. The atheromatous condition may be reduced by stimulating the elimination of lime. This is favored by a diet poor in lime (see below) and following medication:

(119) *Sodii Bicarbonat.*.....10. (2 1/2 dr.)  
*Acidi Lactici*, q. s. ad saturationem.

Deinde adde,

*Acidi Lactici*,

*Syrupi Rubi Idæi*, aa.....10. (2 1/2 dr.)

*Aquæ Dest.*.....180. (6 oz.)

The whole to be consumed during the day.

Quinine and methylene blue have given good results in some cases, the latter even where potassium iodide and nitro-glycerin were of no benefit.

(120) *Methylene Blue Medic.* (Merck) 0.2 (3 grn.)  
*Pulv. Myristicæ*.....0.06 (1 grn.)  
*Amyll.*.....0.12 (1 grn.)

Mf. caps. No. 1. Tal. dos. No. xxx.

One three times a day.

If irritation of the bladder occurs during the medication, a few grains of powdered nutmeg should be given, in conjunction. Patient's attention should always be drawn to the deep-blue coloring of the urine and stools before he receives this remedy.

B. Kinnear<sup>1</sup> recommends the ice-bag treatment. It is applied from the fourth dorsal to the third lumbar vertebra, once or twice a day, from forty minutes to a full hour, and is claimed not only to abort an attack, but also completely to eradicate the trouble. The author has had no experience in this treatment, but the simplicity of the method and the positive assertions of benefit made by its author justify reference to this measure.

The diet is very important and should be very limited: meat, 8 oz.; bread, fish, potatoes, and apples, each 3 oz. a day. The potatoes may properly be replaced by fresh beans, peas, or cucumbers. Cheese, spinach, eggs, beets, cabbage, rice, and radishes are highly contraindicated and should be forbidden. Alcohol and tobacco are also forbidden. Rest and mild massage are very beneficial.

[TO BE CONTINUED]

<sup>1</sup> *Med. Record*, July 16, 1898.

## THE VALUE OF HYDROGEN PEROXIDE, COBALT CHLORIDE, AND FERROUS HYDRATE AS ANTIDOTES IN POISONING BY POTASSIUM CYANIDE<sup>1</sup>

By C. J. Martin, M.B., D.Sc., F.R.S., and R. A. O'Brien

POTASSIUM cyanide has, of recent years, become extensively used in Victoria, Australia, for the recovery of gold, and accidents whereby solutions of cyanide are taken into the stomach, occasionally occur. The investigation recorded arose out of a request made to one of the authors by the Department of Mines, to advise in the drawing up of instructions as to the best course to pursue, in such accidents.

Hydrogen peroxide and salts of cobalt have both been recommended of late years as antidotes for cyanide poisoning. The former has been particularly extolled by Professor Kobert and Dr. Krohl, and is reported to have been successfully used in South Africa.

In the annual report upon recent pharmacological preparations and investigations issued in 1899, by E. Merck, of Darmstadt, Germany, six pages are devoted to the recommendation of hydrogen peroxide in cases of cyanide poisoning, and to instructions as to the best method of employing this antidote. Mr. Merck has also arranged an emergency case containing hydrogen peroxide, together with a stomach tube and hypodermic syringe for the administration of the medicament.

The value of cobalt salts was, as far as can be ascertained, first pointed out by Shoül, although the idea of converting potassium cyanide into insoluble cobalt cyanide has occurred to chemists from time to time. Ferrous hydrate has been for long recommended as an antidote for prussic acid in all English text-books on toxicology. Before discussing the value and action of these remedies, or criticising the statements and conclusions of their advocates, the authors first adduce the evidence from their own experiments.

**Materials Used.**—(1) Cyanide of potassium containing 97.5 per cent. cyanide. (2) Pure crystalline cobaltous chloride. (3) Solutions of hydrogen peroxide, different samples of which were found by titration against a solution of potassium permanganate to contain from 2.26 per cent. to 3 per cent. of hydrogen peroxide ( $H_2O_2$ ) by weight. These solutions contained 1 per cent. of normal hydrochloric acid (3.6 per cent. HCl). This addition was made so that they should keep.

The animals employed throughout the investigation were rabbits, used in some experiments fasting, and in others immediately after feeding, but their being fed or partially starved appeared to make no difference in the result.

**Method of Administration.**—The solutions of potassium cyanide, and of the different antidotes, were always passed directly into the stomach by means of a rubber tube and washed down with a few cubic centimeters of water. The cyanide was given as a 0.1 per cent. solution.

**Determination of Minimum Certain Fatal Dose of Potassium Cyanide.**—The doses varied from 0.0006 to 0.01 Gm. of potassium cyanide per kilogram weight of rabbit. (In every case the rabbit was weighed, and the fatal dose in grams per unit weight in kilograms of rabbit calculated, so that the dose given to each animal was proportional to its weight.)

The dose finally decided on as a certainly fatal one was 0.01 Gm. of potassium cyanide per kilogram of rabbit. With half of this amount of cyanide, 33 per cent. of the animals died, so that the author's experiments were a severe test of the value of any antidote.

**Symptoms Manifested in a Poisoned Animal.**—0.01 Gm. of potassium cyanide per kilogram produced, within seven minutes, staggering gait, very rapid respirations, followed shortly by labored breathing. Convulsions of varying severity always occurred, and appeared in some cases as soon as three minutes after the poison reached the stomach. After each of these spasms, a period of exhaustion supervened, during which the animal usually lay on its side at full length. After a convulsion the respiration consisted of slower heaving movements of the chest and abdomen. Spasms and these periods of exhaustion alternated for a few minutes, and though in some cases the spasms appeared until just before death, usually they soon ceased, and the animal lay exhausted, and its breathing became shallower and slower until death ensued. In some cases in which less than 0.01 Gm. per kilo. was given, the animals were apparently moribund for a period of ten to twenty minutes, after which they gradually began to breathe a little more freely, and eventually recovered. If the animal did not die within thirty minutes, it usually survived.

**Brief Summary of Results.**—At the present time no physiological antidote to hydrocyanic acid is known, nor is there any remedy available which can follow this powerful poison into the circulation, and

<sup>1</sup> From the Physiological Laboratory of the University of Melbourne—*Intercolonial Med. Jour.*, June 20, 1901.

there neutralize it. One can only endeavor to stop further absorption by converting the unabsorbed balance into some non-poisonous compound. Any chemical reaction to accomplish this end successfully must be such a one as takes place very rapidly. The authors have shown that hydrogen peroxide is not useful in this respect. This oxidizing agent completely destroys prussic acid in time, but it is essentially a slow reaction.

Cobalt salts are poisonous, otherwise they would be extremely valuable, for their solutions are stable, and the reaction which disposes of the hydrocyanic acid is instantaneous, and takes place in the presence of amounts of hydrochloric acid, such as occur in the gastric contents.

Ferrous salts, administered with sufficient alkali, are as efficacious as cobalt salts. At the body temperature, the formation of ferrocyanides is instantaneous, but they possess two disadvantages: (1) The difficulty in keeping them in solution; (2) the absolute necessity of administering enough alkali at the same time to completely neutralize any stomach contents. This can best be effected by the simultaneous administration of magnesium oxide. The displacement of ferrous salts by other remedies of recent years, is no doubt due to inadequate appreciation of this fact.

The extreme rapidity with which cyanides poison (the authors never succeeded in saving a rabbit unless treated within five minutes of the administration of a certain fatal dose of potassium cyanide) leaves no time to prepare solutions and collect remedies, and they therefore think that, in all mines and mining laboratories where opportunities for accidental poisoning by cyanides occur, solutions of ferrous sulphate, weak potash, and a small packet of magnesium oxide, together with a stomach tube and suitable receptacle for mixing, should be kept ready prepared in some suitable position, so that they could be administered with only a few seconds' delay.

The total acidity of the stomach contents in man would be unlikely ever to exceed that of 500 Cc. of decinormal hydrochloric acid (0.36 per cent. HCl). This would be met by 1 Gm. of magnesium oxide. The authors would recommend that the following be prepared:

(1) 30 Cc. (1 oz.) of 23 per cent. solution of ferrous sulphate.

(2) 30 Cc. (1 oz.) of 5 per cent. solution of caustic potash.

(3) 2 Gm. (30 grains) of powdered magnesium oxide.

(4) Metal receptacle, 1 pint capacity.

(5) A stomach tube.

Nos. 1 and 2 should be in hermetically sealed tubes, which can be broken into the receptacle, and powdered magnesia and half a pint of water added, shaken up, and administered. This amount of antidote would account for 5 Gm. of potassium cyanide, a quantity far in excess of what is likely to be drunk accidentally, but, as mentioned above, to secure a sufficiently rapid reaction, the ferrous sulphate and alkali should be in considerable excess.

The paper is exhaustively extended at all points, and the conclusions of the authors are supported by many tables.

## TREATMENT OF THE CHRONIC DIARRHEAS OF CHILDREN

By J. Park West, M.D.

SINCE the majority of cases of chronic diarrhea in children are due to improper food, with which mother's milk is at times to be included, and improper feeding, it follows that the prescribing of a proper diet is the most important part of the treatment of the disease. Many of the cases apparently due to an acute disease, as an acute diarrhea, or one of the acute exanthema, would probably not have occurred had the children been having proper food previous to the acute process. No doubt other conditions do at times cause a chronic flux in a previously healthy child, but usually the above statement will be found to be correct. One of the most obstinate cases the writer has ever treated followed an intestinal invagination in a boy of fifteen months, in whom the digestive process had previously been normal. Certain drugs will hasten the cure of these cases, and, while secondary to diet, they can be made to play a very important part in the treatment.

The author makes a few general statements, the importance of which will be apparent. Strict rules must be laid down for the child's daily life, from which there should be no variation except by the physician's consent, and he should permit no change until fully convinced that one is imperative. This latter is for the benefit of the nurse as well as the child. The feeding of the child should be in the hands of but one person, otherwise the improper food or feeding may be continued to a greater or less extent. A frequent inspection of the stools is absolutely necessary. A stool that is not healthy will be described as natural by the nurse because it is so much better than it had been that it appears



normal to her. By taking another's word for this, a lack of progress is often unaccounted for, and unnecessary and futile changes made in the treatment. The disposition of soiled napkins and the cleansing of the nurse's hands after changing napkins are minor but important points for instruction. An inspection of the sleeping apartments should be made and suggestions given as to ventilation, heat and light. A daily warm bath followed by a dash of slightly cooler water and a brisk rub, and a semi-weekly rubbing with a bland oil (as cocoanut oil) will prove beneficial. A daily outing, often 'of but a few minutes' duration, is seldom contraindicated at any season; the duration and the weather in which it is and is not permitted being designated. The time-honored flannel bandage should be used and proper protection for the legs and feet must be provided for, and the latter kept warm and dry.

In the beginning of treatment there should be given a preliminary cathartic of from  $1\frac{1}{2}$  to 3 grn. of calomel with a small quantity ( $\frac{1}{12}$  to  $\frac{1}{6}$  grn.) of extract of hyoscyamus to prevent griping. In from five to six hours, or about the time the calomel should act, the colon should be thoroughly irrigated and the irrigation repeated within the next twenty-four hours; it is better that the physician do this the first time. Irrigation will not be called for again unless special indications arise, as will be mentioned farther on. If there has been a lenteric diarrhea it should be remedied by small doses of Fowler's solution and laudanum before other than dietetic treatment is begun.

Regular intervals should be fixed for meals, and particular care should be taken that there is no overfeeding. The child will often cry from interfering with his habit of eating at his pleasure. The stopping of all the previous food is usually to be insisted on, as is also weaning in some cases. Limiting the diet to one of the liquid foods (as panopeptone or liquid peptonoids) for from one to three days at the beginning is often necessary. After this there may be added barley water, egg water, mutton broth, small quantities of diluted and sweetened whiskey, or a teaspoonful of the juice expressed from a piece of round steak slightly broiled; this can be given alone or added to the broth. The well-known mixture of 5 oz. of barley water, 2 dr. of whiskey, the white of an egg, with salt and sugar, is usually satisfactory and well taken. A cautious return is to be made to milk, which should be well diluted with barley water (preferably dextrinized) and

lime water, or partly or wholly peptonized. At first this should constitute but one meal a day, to be slowly increased in amount and frequency if the progress is satisfactory. When the stools are resuming a normal appearance, a piece of dry toast or a plain fresh cracker, or thoroughly cooked rice, can be given alone. Gradually a full diet for the child in hand is resumed.

In addition to the drugs mentioned above, three others have been found of value in these cases; viz., ammonium chloride, xanthoxylum, and senna. The writer almost invariably uses a prescription similar to the following, and believes that with its use the return to health is much speedier and the restricted diet will not have to be so long continued:

Ammonii Chloridi.....	3i-3iss
Ext. Sennæ Fld.....	f3ij
Ext. Xanthoxyli Fld.....	f3vi
Ext. Glycyrrhizæ Fld.....	f3iv-3vi
Aquæ Dist., q. s. ad.....	f3iii

Teaspoonful every four hours for child of two years.

In cases of chronic diarrhea there is a diminished secretion of the normal juices and an increased secretion of mucus; that from the upper bowel is not seen, but is still present, while that from the lower bowel is usually a noticeable feature. The three drugs stimulate the normal secretions and hasten nutritive changes, and each has a special action on mucous membranes, particularly if there is a catarrhal process. Ammonium chloride not only increases the secretion of the intestinal juices but liquefies the mucus, and will not increase the quantity of the latter if not too long continued. In the doses given, senna is a tonic and carminative as well as slightly laxative, and insures a more regular action of the bowels. Seldom will the passages be so frequent while using these drugs as to require the omission of the senna. Xanthoxylum increases the flow of saliva and of all the other juices of the alimentary canal, and it is said to stimulate the entire capillary circulation. (A recent preparation of this drug should be used, as older ones are frequently inert.) After two to four weeks' use of these remedies the tonicity of the intestinal mucous membrane will be so restored that bismuth can exert an influence it could not before, and is now particularly beneficial. The bismuth subnitrate can be given alone, in large or small doses as the case requires, or with salol, or sodium bicarbonate, to help prevent the formation of mucus, or with aromatic powder. As a general systemic tonic, no better one will be found than brucine; many children take the small granule readily.

During treatment, and while the progress is satisfactory, there will occasionally occur a diarrhea with the passages containing large quantities of mucus. This is only temporary, but calls for a restriction of the diet and irrigation of the colon. Colonic irrigation is only to be used when there is a special indication as above.

Children who have had chronic diarrhea require special after-care for some time, for the condition is easily brought on again. A plain, substantial diet only, regular habits, care and protection of the skin, with early attention to every acute illness, or even slight indisposition, with especial reference to the gastro-intestinal tract, will prevent a return.

## PHARMACOLOGY OF CAFFEINE<sup>1</sup>

By George B. Kauffman,

Professor of Pharmacy, Ohio State University, Columbus

THIS alkaloidal body has within recent years attained a popularity in medical practice that has given it a position among those first in importance. Its very rapid growth in popularity is due almost entirely to its combination in use with the more recently discovered hypnotic and antipyretic agents: acetanilid, phenacetin, antipyrine, etc., more particularly with acetanilid. The numerous proprietary remedies for the relief of various forms of headache which have been so persistently advertised and which have attained a wide popularity, are for the most part mixtures of these two bodies. The consumption of caffeine following the introduction of this formula has been increased many times, and has at several periods taxed the source of caffeine to the limit, and we have been on several occasions threatened with a shortage of this drug. It seems, however, at the present time that the supplies of crude material are ample, and that we shall for some time to come have an abundance of the drug at reasonable prices, it being not probable that the demand will further increase. Seemingly the use of headache remedies has reached the limit, and we may expect a gradual falling off in their use, due chiefly to the fact that the public is being slowly awakened to the danger attending them. It is my purpose to give a short review of the commercial condition at present existing and a history of the drug.

The chemistry of caffeine, like that of all organic bodies, is very intricate, and I will not attempt more than a general statement

of it. Its chemical formula is  $C_8H_{10}N_4O_2$ . A remarkable point about its composition is the amount of nitrogen which it carries, resembling more nearly in this respect the animal products rather than those of vegetable origin. It is very feebly basic, forming but few clearly defined salts. These are more readily formed with the mineral acids, and, by some claimed, with a few of the organic acids. The United States Pharmacopœia does not recognize any of these combinations, the nearest approach being the citrated caffeine. This is not, as its name implies, a chemical combination, but a mechanical mixture, therefore both physicians and druggists are in error in indicating it as caffeine citrate. Chemists are inclined to refuse to rank caffeine among the alkaloids, but until they can give us some more definite classification than that of "A Feebly Basic Proximate Principle," it is most likely the trade circulars will continue to list it as an alkaloid. Chemically, it is trimethyl-xanthine, and is capable of synthetic production. Its synthesis has been accomplished from guanine, a basic body obtained from guano. On treating guanine with nitrous acid, xanthine  $C_5H_4N_4O_2$  is produced. On adding a solution of silver nitrate to an ammoniacal solution of xanthine an amorphous silver derivative is formed; this, when heated with methyl iodide, is converted into dimethyl-xanthine or theobromine. When the silver derivative of theobromine is heated with methyl iodide, trimethyl-xanthine or caffeine is produced. Its synthetic production, however, is not a commercial process, and the caffeine of the market to-day is from natural sources.

Caffeine is obtained from the leaves and fruits of several plants which are widely separated in their botanical relation and widely distributed geographically. It was originally discovered in the seed of *Coffea Arabica*, our well-known coffee. Its discovery was made about 1821, and seems to have been noted simultaneously by several chemists. It was later found in the leaves of Camellia tea, the very popular tea, and later has been found in the leaves of several species of holly, more particularly in the leaves of the *Ilex Paraguayensis*, known more commonly as Paraguay tea or mate, also in the seed of the guarana and of the kola. It is also found in the chocolate nut in small quantities, associated with theobromine, which latter body, as I have already indicated, is a lower homologue of caffeine. It is interesting to note the wide difference in the plants producing this alkaloid. The tea, coffee, and cacao are bushes or small trees; the guarana is a climbing vine; the

<sup>1</sup> Read before the Columbus Academy of Medicine, April 15, 1901. *Columbus Med. Jour.*, August, 1901.

kola a large forest tree. These plants bear no botanical relation. Their distribution is also interesting to note. Both tea and coffee have been for so many years cultivated in most tropical countries that their origin has been somewhat obscured, but it may be generally stated that their habitat is India, China, and the East Indies. The theobroma cacao, or chocolate, is a native of Central America and Mexico; the guarana is found along the east coast of South America, the mate through Central South America, the kola in Central and Western Africa. Also another variety of holly, the *Ilex vomitoria*, is found in our own Southern States, particularly in Florida and Alabama, and is said to be still used by the few Indians remaining in that section. It is still more interesting to note the uses. There is great similarity in the use of these products among the several nations, and it seems peculiar that the same stimulant should have been discovered in sources and by people so widely separated, and that such a similarity in the methods of use should exist. I believe that it may be stated that the only people on the face of the earth to-day who do not make use of caffeine as a stimulant are the inhabitants of the regions of the north, the Esquimo, the Alaskan Indian, and the Laplander. We commonly think of alcohol in its various forms as being the stimulant most widely popular, but I am inclined to believe that caffeine is more world-wide in its application. Nor is this general use of recent development, but has been the practice for ages. Among Europeans, the use of caffeine is more recent, but its popularity is widespread. In oriental countries the use of tea and coffee extends back beyond the bounds of history. When Cortez came to Mexico he found the Aztec taking his "chocolatyl" with a zest and relish which we have learned to imitate, and in South America the use of guarana and mate extends beyond the period of the European occupation. Also in Africa the early explorers found the kola highly prized among the savage tribes. The general use of this drug would seem to indicate that it is especially fitted for, or meets some special want of the human system. We know that the base xanthine is a normal constituent of the urine, and is found in small quantities in most of the organs of the body, and we may assume that it serves some important function. Is it not possible that this base is more readily supplied as a decomposition product [?] from caffeine or theobromine, and thus account for the universal desire of the human family for these products? May we not consider it much the same as the desire

of most animal life for common salt? We know that the digestive function must get chlorine from somewhere, and finds it most readily in sodium chloride. In like manner it is possible that xanthine is most readily supplied from tea, coffee, and chocolate.

The commercial source of caffeine is tea; all the caffeine found in the shops has been produced from tea, this being the cheapest source. As a matter of fact it is for the most part prepared from what is known as tea sweepings. At the great warehouses of New York and London at stated periods sales are held of waste and damaged tea. It not infrequently happens that whole cargoes of tea are damaged by moisture, becoming mouldy, and thus unfit for market. Such goes to the manufacturing chemist, who extracts the caffeine. The process of extraction is not a difficult one. An infusion is made by extracting the tea with boiling water, and from this infusion the most of the organic matter is precipitated by boiling with litharge or sugar of lead, disposing of the excess of lead by treatment with sulphuretted hydrogen and concentrating the solution to crystallization. The per cent. of caffeine varies greatly and does not seem to bear any relation to the market price of tea and coffee. As a matter of fact, it frequently happens that the most inferior samples yield the largest per cent. of caffeine, market prices seeming to be based on appearance and aroma. Tea, coffee, and mate contain like amounts, the per cent. varying from .5 to 2.5 per cent. Kola is richer, containing from 2 to 4 per cent., while guarana frequently contains as much as 7 per cent. Recently the kola has been presented, as a drug possessing peculiar and valuable stimulating properties, and many have come to accept this as a fact. Chemical and physiological experiments, however, go to show that it does not possess any marked properties to distinguish it from the other caffeine-bearing drugs, and that its activity is due chiefly to its caffeine. Some difference of opinion seems to exist among physicians, and some doubt as to the absolute identity of caffeine as obtained from the several natural sources, some claiming that a difference in the physiological action is to be observed between the caffeine of coffee and the caffeine of tea. A few years back this claim was strongly urged by Dr. May, of Philadelphia, who received so much support as to induce some chemists to market both products, caffeine from coffee, and caffeine from tea. I believe, however, that at the present time the identity of the body from the several sources is fully established, and that whatever slight variation in effect

is to be observed is due to the associated bodies.

The action of caffeine is well known, and it would be but presumption on my part to attempt a statement of its physiological action. I will, therefore, close by merely suggesting that its most peculiar effect is the inducement of a remarkable condition of wakefulness, and that where it is desired to combat drowsiness or dullness, as physicians have frequent occasion to do, a cup of tea or coffee or a good strong dose of caffeine will be found more effective than any other stimulant.

## THE VARIOUS METHODS OF PRODUCING ANESTHESIA<sup>1</sup>

By E. Laval, M.D.

THERE are so many methods of obtaining anesthesia that the surgeon is often confronted by a veritable embarrassment of riches when desirous of selecting the most appropriate procedure. Nevertheless, says Dr. E. Laval, a few general rules can be established to serve as guides. All the various methods of producing anesthesia may be brought under two headings, since they aim either at general or at local anesthesia.

*General Anesthesia.*—The agents employed are chloroform, ether, nitrogen monoxide, ethyl bromide, etc. The latter two are especially adapted to operations about the mouth, nose, and throat—regions too sensitive for local anesthesia to suffice, and operation too much out of proportion to the profound anesthesia of ether or chloroform. Ethyl bromide is even simpler than nitrogen monoxide, being quick and reliable in action and free from bad after-effects.

*Local Analgesia.*—This method aims at producing local insensibility to *pain* only. The senses of touch, temperature, etc., are preserved. This purpose may be achieved by external and by subcutaneous application. The simplest procedure is compression. Thus, an ingrown toe-nail can be painlessly operated upon after applying a constricting bandage to the base of the toe. Recently, surgeons have been able to amputate a leg by using the same method of compression, by means of Esmarch's bandage. The anesthetic action is due partly to pressure on the nerves, partly also to the arrest of arterial blood supply.

Another equally simple anesthetic measure is refrigeration. A mixture of 2 parts of cracked ice and 1 part of sea salt is wrapped up in a cloth and applied to the field of operation. The tissues promptly become

white, hard, and insensitive. Often refrigeration is combined with the specific action of a medicament, as in the ether spray. Local ether analgesia is, however, generally incomplete and the patients feel pain. Another disadvantage is the inflammability of ether.

Methyl chloride is applied locally on cotton tampons and produces analgesia in three to five seconds. Ethyl chloride, projected on the skin from a distance of 30 to 35 Cm., causes first redness, then whiteness of the tissues. The latter condition is indicative of analgesia, lasting one to two minutes.

Refrigeration as a method is open to many objections: the action is transient, superficial, and mortification easily follows prolonged application, etc. Drugs may be applied locally in place of ice. Carbonic acid and carbon sulphide were formerly used in this connection, as well as belladonna ointment, phenic acid, etc., only to be abandoned. At present cocaine is frequently used as a local anesthetic. Besides all these topical measures, hypodermic medication was also early employed with the view of producing anesthesia.

Reclus was the first to use cocaine for this purpose. A freshly prepared 1-per cent. solution may be injected to the extent of 2 to 5 drams. Modifications of his method were soon introduced, and it was found advisable to apply a ligature to the member and then inject the drug directly into the nerve-trunks supplying the field of operation. Another modification is Schleich's infiltration method, which produces anesthesia chiefly by mechanical action of the injections. The solution used is only to a small extent responsible for the effect. Schleich recommended a combination of cocaine, morphine, sodium chloride, and distilled water. Finally, cocaine has been injected into the subarachnoid space, in order to have it act directly on the nerve-trunks supplying the region of operation.

The question now arises: What are the indications of all these different methods?

The ideal method ought to afford a maximum of anesthesia with a minimum of danger. Of all the procedures mentioned above, we have seen that the external measures are open to the objection of transient and superficial action, while the more thorough methods, like etherization, etc., are not free from danger. Therefore, some concessions must be made to both and the following points may be taken as a guide:

For operations about the face, teeth, and pharynx, ethyl bromide is the preferable anesthetic.

For the extremities, compression by

<sup>1</sup> *Bull. gén. de Thérap.*, CXLI, No. 18.

means of an Esmarch ligature, with or without cocaine injections, is the best method.

For major operations on the extremities, general anesthetics are usually employed, but the patient is greatly endangered by them. They are, therefore, best substituted by Esmarch's bandage and cocaine injections, locally or subarachnoidally.

On the other hand, abdominal surgery must resort to general anesthetics, taking all their drawbacks into the bargain.

The same must be said of major operations of the head, while smaller operations about the trunk may be performed under local cocainization.

#### TREATMENT OF ASCITES

Dr. A. H. Bigg<sup>1</sup> says that the prejudice against elaterin is unjustified. When used alone it may produce undesirable results, but combined with suitable correctives, its effects are excellent. He prescribes it in the following combination, which he praises very highly:

Elaterin .....	$\frac{1}{18}$ grn.
Strychnine Sulphate.....	$\frac{1}{40}$ grn.
Spirit Glonoin.....	$\frac{1}{200}$ grn.
Ext. Digitalis.....	$\frac{1}{4}$ grn.
Caffeine.....	1 grn.
Powd. Cloves.....	1 grn.

For one capsule. Give one capsule every three to six hours.

The author says that this formula may be relied upon to remove ascitic fluid. Unless enteritis or gastritis be present, he would "boldly attack any case of ascites with the above combination with the confident expectation of rapidly removing the fluid without material discomfort and with no risk whatever to the patient." Where there is a tendency to nausea,  $\frac{1}{8}$  grn. of cocaine, or the temporary substitution of cocaine for the digitalis may be advisable.

The treatment must be pushed vigorously, so as to cause four to six copious evacuations until relief is obtained. The author says that the rationale of the above treatment and the results obtained in practice justify these conclusions:

(1) By the courageous use of cardiac stimulants, combined with carminatives, the depressing tendency of the most active hydragogue cathartics, simultaneously administered, may be so obviated as to render their continuous and prolonged use entirely safe.

(2) The efficacy of such cathartics, notably elaterin, when given with the object of removing ascitic fluid is greatly promoted by the coadministration of drugs which elevate arterial tension.

(3) In the treatment of abdominal dropsy with the agents suggested, a coincident weak heart, so far from constituting a contraindication of such treatment, may be regarded as an incentive to a persevering trial of it, and good results to the heart itself may be expected.

#### METHYLENE BLUE IN MALARIA AND URETHRITIS

Dr. Ira A. Marshall<sup>1</sup> treats malaria in the following manner: He gives at first 2 grn. of calomel combined with 4 grn. of sodium bicarbonate every hour for five doses, following this up with a good dose of magnesium sulphate or magnesium citrate. The next day the following is given:

Salol.....	2 dr.
Methylene Blue (Medicinal)....	2 dr.
Antifebrin.....	1 dr.

Triturate thoroughly and fill into No. 1 capsules. One every four hours.

This has the effect of stopping the chills. After this the writer gives some preparation of iron, arsenic or arsenite of strychnine, the latter in doses of  $\frac{1}{60}$  grn., three or four times a day. When quinine is administered, he gives it in the following form:

Quinine Sulphate.....	2 dr.
Hydrobromic Acid.....	1 dr.
Water.....	1 dr.

This makes about half an ounce of a perfectly clear solution, and of this solution he fills a No. 1 capsule, and gives it to the patient, repeating every four hours, followed by a large draught of water.

The hydrobromic acid tends to prevent cinchonism.

For the fever and the headache he has given the following mixture with invariable success for the past ten years (in doses of about 5 to 8 grn.):

Antifebrin.....	1 oz.
Citrated Caffeine.....	1 dr.
Sodium Bicarbonate.....	$1\frac{1}{2}$ dr.

In gonorrhea he has used methylene blue for the past three years, and with success in every case. The bowels are first cleaned out with a saline, and then large (No. 0) capsules are given of the following combination:

Oil Sandalwood.....	$\frac{1}{2}$ oz.
Oil Wintergreen .....	$\frac{1}{2}$ oz.
Methylene Blue (Medicinal)....	2 dr.

One capsule four or five times a day.

He also uses an injection of protargol or of the following mixture:

Zinc Sulphate.....	10 grn.
Hydrastine Sulphate.....	10 grn.
Cocaine Hydrochlor.....	10 grn.
Glycerin.....	3 oz.
Water.....	3 oz.

Inject three times a day, after patient has urinated, and after washing out the urethra with warm water.

<sup>1</sup> Med. Record., LIX, No. 16.

<sup>1</sup> Med. Summary, XXIII, p. 170.

# Progress in Materia Medica and Drug Therapy

## CAMPHOR IN ULCERS OF THE LEG

Dr. Walbaum<sup>1</sup> speaks warmly in favor of camphor in the treatment of leg ulcers. He uses the spirit of camphor, while others prefer an ointment. The author proceeds as follows: The leg having been thoroughly scrubbed with green soap, a moist dressing of solution of aluminium acetate is applied and renewed daily until the secretion is diminished and has become odorless. Then a wet dressing is applied every other day, using spirit of camphor instead of water. When the dressing is being changed the ulcer is cleansed with some antiseptic solution, like carbolic acid. The results have been very encouraging. Out of about forty cases not a single one could resist the treatment, which often lasted less than three weeks.

## SODIUM CACODYLATE IN TUBERCULOUS PERITONITIS

Dr. Schmitt<sup>2</sup> has treated a case of tuberculous peritonitis with injections of sodium cacodylate and enemata of saturated solution of carbon disulphide. The patient recovered. The details of treatment are as follows: (1) Every morning an injection of 1 grn. of sodium cacodylate. (2) Every day an enema of 1 dr. of carbon disulphide, dissolved in 1 pint of distilled water. (3) Forced nutrition.

Sodium cacodylate brought about an increased appetite and general tone, while the enemata disinfected the intestines and restored their elasticity. In the bowels a certain quantity of the carbon sulphide is volatilized and distends the intestine walls by its pressure. This result would seem to suggest the employment of the remedy in intestinal obstruction.

## RANUNCULUS FICARIA IN HEMORRHOIDS

Sir James Sawyer<sup>3</sup> states that he found an ointment of ranunculus ficaria a very efficacious application in hemorrhoids. This plant, which is also known under the names ficaria verna, lesser celandine, and pilewort, is a well-known perennial plant with bright yellow star-like blossoms and shining kidney-shaped or heart-shaped leaves. The ointment is prepared as follows: The plant is collected in the spring at the time of blooming, and cut—an entire plant—into small sections, and put into lard in the proportion of about 1 part of the plant

to 3 parts of lard. It is then macerated in the melted lard, which is kept at a temperature of about 100° F., for twenty-four hours. The mixture is then strongly expressed and the oily infusion is strained and allowed to cool. When properly prepared—the temperature should not be too high—the ointment should be of a nice, bright olive-green color. It is to be applied to the hemorrhoidal part twice daily, by the aid of the finger, preferably immediately after an evacuation.

## QUININE AS A PROPHYLACTIC TO INFLUENZA

Dr. W. Habgood<sup>4</sup> states that quinine in small doses is a sure prophylactic against influenza. He himself had been very subject to it and had had five attacks in four years. When the next epidemic was prevalent, he began to take 2 grn. of quinine every morning with his breakfast, and has done so each succeeding period when the disease was prevalent. As a result, he has never had another attack. He obtained the same favorable results in his patients who had on previous occasions suffered with influenza. The quinine acted as an effectual prophylactic

## CODEINE FOR COUGHS

Codeine is a much feeblere anodyne and hypnotic than morphine, being only about one-fourth the strength of the latter. Dr. H. A. Giltner<sup>5</sup> believes it is one of the valuable drugs that is too little used, for the special reason that its field of usefulness is too little known. It can be used to a great advantage in various diseases, such as insomnia, mild pain, especially neuralgic or rheumatic in character, diabetes mellitus and coughs of all kinds, but it is particularly to the latter that the author would call attention. When properly used this drug is not only safe, but it produces no bad after-effects, either on the digestive or nervous systems.

It has been the author's chief ally the past winter in treating the coughs of gripe and bad colds, which have been more stubborn to treat this year than usual. To control an irritating, useless cough or severe paroxysms of coughing, he uses it in tablet triturates of  $\frac{1}{8}$  grn., finding by experience that a small dose often repeated is better than large doses at longer intervals. He gives it from one-half to one hour apart until

<sup>1</sup> *Münch. med. Woch.*, XLVIII, No. 26.

<sup>2</sup> *Bull. gén. de Thérap.*, CXLI, No. 18.

<sup>3</sup> *Birmingham Med. Rev.*, No. 273.

<sup>4</sup> *Brit. Med. Jour.*, No. 2110.

<sup>5</sup> *Wis. Med. Rec.*, IV, No. 4.

cough is controlled, and it usually only requires two or three hours to get the desired effect. It can be used over an extended period without any ill-effects whatever. Unlike morphine or opium, instead of drying up the secretions of the respiratory tracts, it produces a mild expectorant effect.

Where the cough is so severe that the patient can get no rest and where it is all out of proportion to the amount expectorated, codeine is of incalculable value. Instead of tablets, codeine may be used in the form of syrup,  $\frac{1}{8}$  grn. to 1 dr.

Unlike many remedies, the practitioner can rest assured when he prescribes codeine in these cases that it is certain to have the desired effect. The author recalls but one case of the past winter in which it was not fully effective. To be sure, this is only treating a symptom, but in many cases by successfully combating a cough in la grippe or a cold, the trouble will be mitigated to a great extent.

In pneumonia and pleurisy, codeine has also proved very effective, in the same doses, and it may be said, as a general rule, that for coughs it is more effective in small doses than most drugs, and while as much as 8 or 10 grn. could be used in twenty-four hours by giving in  $\frac{1}{8}$ - or  $\frac{1}{4}$ -grn. doses, not more than 2 or 3 grn. at the utmost are needed, and in an average case a grain is sufficient.

[Dionin, which is chemically ethyl-morphine, while codeine is chemically methyl morphine, is still more serviceable than codeine. In all compounds the ethyl radical is less poisonous and produces more agreeable symptoms than the methyl radical. As a cough sedative, in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grn., dionin is highly recommended.]

#### IODIPIN AND BROMIPIN

The important place occupied by iodine in therapeutics readily accounts for the search after a substitute free from unpleasant after-effects. In this respect, states Dr. Lewitt,<sup>1</sup> iodipin deserves the preference over all others. It is a chemical combination of pure iodine with sesame oil. As shown by experiments on animals, iodipin passes the stomach unchanged and is partly split up in the intestines, partly absorbed as fat, and deposited as iodipin in the different tissues, where iodine is slowly liberated, and thus a continued and gradual effect insured. Solutions of 10 per cent. and 25 per cent. are on the market, the first for internal and the second for hypodermic use. Administration by mouth is, according to the author,

to be preferred whenever possible, and the subcutaneous method reserved for insane or unconscious patients.

Numerous favorable reports on iodipin have appeared. Thus, Klar treated with the remedy a chronic case of bronchial asthma, another case of asthma complicating tuberculosis, one of syphilitic phthisis, and one of tuberculous infiltrations of the larynx—all with striking success. Others report similar results.

The drug may be given in doses of 1 teaspoonful to 1 tablespoonful of the 10-per-cent. preparation thrice daily. Its oily taste can be corrected by adding 5 to 10 drops of oil of peppermint to 3 oz. of iodipin.

Recently iodipin has been utilized for the purpose of ascertaining the motor functions of the stomach. Since iodipin is changed only on reaching the intestines, the time elapsing before its appearance in the secretions may fairly be taken to indicate the motor efficiency of the stomach. Normally iodipin appears in the secretions ten to forty-five minutes after its ingestion.

Another diagnostic possibility has been suggested by Werner: in case the iodine reaction fails to appear in the urine or saliva, an obstruction of the thoracic duct is made probable, if other causes have been excluded.

Bromipin, a compound analogous to iodipin, has been successfully employed in the treatment of epilepsy, as a substitute for the bromides. Large doses can be given with safety, and the administration continued, even in cases suffering with intoxication symptoms produced by alkaline bromides.

#### SCOPOLAMINE HYDROBROMATE IN PSYCHOSES

Dr. M. Rosenfeld<sup>1</sup> states that he found scopolamine hydrobromate very useful in paralysis agitans and in senile tremor. He used it hypodermically in daily doses of  $\frac{1}{240}$  to  $\frac{1}{120}$  grn. In one case of tic convulsif, in which all other remedies failed, a permanent cure was effected by scopolamine. In a case of hereditary chorea it proved a good palliative. The danger of intoxication is not very great, but the drug must not be given in a routine manner; each case must be carefully watched in the beginning, before the proper dose is determined. When this is done, the scopolamine may be given for a period of three months without untoward symptoms. The solutions must be perfectly fresh, otherwise the result may be either *nil*, or disagreeable after-effects may make their appearance. The author calls attention to the fact that dryness of the skin,

<sup>1</sup> *Med. Bulletin*, from *Deut. Med. Woch.*, xxvii, No. 20.

<sup>1</sup> *Therapie d. Gegenw.*, July, 1901.

scratching in the throat, and slight vertigo are not sufficient indications for discontinuing the treatment. The hypodermic injection is to be preferred in each instance to administration per os.

#### THE EFFECT OF DILUENTS ON MILK

Dr. Franklin W. White<sup>1</sup> has experimented on the effects of various diluents on the coagulation and digestion of milk, and reaches the following conclusions:

(1) Dilution of milk with cereal decoctions of proper strength renders the casein curd much more fine, soft, and digestible than simple dilution with water. There is no difference in the action of various cereals, such as barley, oats, rice, or wheat.

(2) The above property is due mainly, if not wholly, to the starch in solution, the most desirable amount of starch in the milk mixture for practical use is approximately  $\frac{3}{4}$  per cent.

(3) Diastase, by converting the starch to dextrin and maltose, promptly lessens and removes the action of cereal waters upon casein. Its addition, therefore, is not a practical measure when the action upon the curd is desired.

(4) Albumin water has no practical value as a diluent of milk.

(5) Lime-water added to milk has no more effect than water upon the character of the curd produced in the animal stomach.

#### CALCIUM CARBIDE IN CARCINOMA

Dr. Q. C. Chase<sup>2</sup> utterly condemns the use of calcium carbide in inoperable carcinoma of the uterus. Basing himself on experimental and clinical data, he reaches the following conclusions [which to some might appear rather too dogmatic]:

(1) The mass of the literature on this subject is misleading. (2) The originators of the treatment were ignorant of the real action of calcium carbide, and had insufficient clinical experience to pass judgment on its value. (3) Acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells. (4) Acetylene has no escharotic effect. (5) Acetylene has no bactericidal action upon pathogenic bacteria or the bacteria of putrefaction. (6) The principal action of calcium carbide results from liberated quicklime. (7) Lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis, and tendency to promote hemorrhage. The metallic salts are

more styptic, and their action may be better graduated by proper selection. (8) The amount of heat evolved may be sufficient to slightly cauterize the tissues. In most cases it has slight therapeutic effect, save counteracting the tendency to hemorrhage and promoting contraction. (9) The heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion and more complete contraction of the wound. (10) Calcium carbide is open to the same dangers as other caustics when improperly or too zealously applied: those of producing its corrosive action in the wrong place, fistulæ, perforation, and fatal peritonitis or occlusion of the ureters. (11) The treatment does not reduce odor or hemorrhage nor give more comfort to the patients than other rational lines of treatment. (12) Claims of its advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusion that calcium carbide could ever cure a case of really inoperable cancer of the uterus. (13) The facts regarding the subject should be more widely disseminated to expurgate medical literature and to avoid false expectations and fatal delays in operable cases.

#### TREATMENT OF GONORRHEA WITH ICHTHARGAN

Dr. Moritz Fürst<sup>1</sup> of Hamburg, reports the results which he obtained with ichthargan in the treatment of gonorrheal urethritis. He employed it in seventy-five cases, both in dispensary and in private practice. He states that in spite of the superabundance of antigonorrheal remedies, we have a perfect right to investigate any new compound, if its chemical composition is of such a nature as to warrant the belief that it will prove effective in the treatment of that obstinate affection. That ichthargan—a combination of the well-tried and proven silver nitrate with the bactericidal, siccative, and anodyne ichthyol—is such a compound, theoretically at least, no one will deny. And practical results fully justify the *a priori* expectations.

Of the 75 cases treated by the author, 26 were first cases, while 49 were suffering from the second, third, etc., attack of gonorrhea. Of these 6 were cured in from five to eight days, 24 in one to two weeks, 12 in three to four weeks, and 13 in more than four weeks. Of the last 13, the author considers 4 cases not cured because they still have a slight discharge, though free from gonococci. All the other cases were entirely cured.

<sup>1</sup> *Jour. Boston Soc. Med. Sci.*

<sup>2</sup> *Jour. Amer. Med. Assoc.*, XXXVI, No. 25.

<sup>1</sup> *Canad. Jour. of Med and Surg.*, x, No. 2.



The ordinary method of using the ichthargan was by means of injection. The patients were directed to use solutions of  $\frac{1}{3}$  to 1 grn. of ichthargan to 7 oz. of water. The stronger solutions were given in the beginning in acute cases with purulent discharge, full of gonococci; the weak solutions were used toward the end as an astringent. The patients repeated the injections four to five times a day, after urination, and they were instructed to retain the solution for five to ten minutes. In cases in which the posterior urethra was affected, 6 to 10 drops of a 3-per-cent. ichthargan solution were instilled by means of Guyon's urethral syringe.

The superiority of this solution over silver nitrate was at once apparent, as the pain was much less, and the constant irritation and desire to urinate which are produced by silver nitrate were absent. The author also used ichthargan in the form of suppositories, made up with cacao butter, and containing from  $\frac{3}{4}$  to  $1\frac{1}{2}$  grn. of ichthargan each. As a prophylactic after suspicious coitus, the author advises the instillation of 3 to 4 drops of a 10-per-cent. solution into the fossa navicularis. The author considers ichthargan, on the whole, a most excellent antigonorrheal, greatly superior to protargol, with which he has also had extensive experience.

In conclusion, Dr. Fürst calls attention to the fact that, taking into consideration the high percentage of silver in ichthargan—containing, as it does, 30 per cent. of silver, while protargol contains only 8 per cent.—and the potency of the drug, which makes even very weak solutions effective, it is the cheapest of the organic silver compounds used for antigonorrheal purposes.

#### METHYLENE BLUE IN OPHTHALMOLOGY

Jacquau<sup>1</sup> has found methylene blue to be an invaluable antiseptic in certain ocular lesions. The drug is generally indicated whenever an infection of the eyeball is present or threatened. Undoubtedly its antiseptic powers are very efficient, but in order to obtain the full benefit the infected surface must be impregnated and colored blue by the reagent. It is especially of value in superficial corneal affections. Instilled into the eye, the solution spreads over the surface without leaving a trace on the healthy portions, and colors the areas devoid of epithelium. Minute ulcers may now be discovered for the first time by the blue coloring. The strength of the eye-wash varies from 1:1,000 to 1:500 and much stronger.

Two instillations daily will suffice on the average, to be followed by an occlusive dressing. Rapid improvement and often complete cure result.

The diverse corneal inflammations of infants readily yield to this method of treatment.

In the various forms of conjunctivitis, methylene blue exercises a much less constant action. Excellent results are, however, sometimes seen in catarrhal conjunctivitis. In cases of deep inflammation, of suppurative iritis, parenchymatous keratitis, etc., the instillations can have no effect. The solutions should be absolutely neutral, since alkalies diminish the coloring, and thus the antiseptic value, of methylene blue, while acids also affect the remedy.

A solution of 1:700 may be prescribed as follows: Medicinal methylene blue,  $\frac{1}{10}$  grn.; neutral distilled water, 2 dr.

#### PYOKTANIN IN CANCRUM ORIS

Dr. Achwlediani<sup>1</sup> reports a case of cancrum oris, in a boy of nine years, following scarlet-fever. The parents first noticed an offensive odor from the mouth of the child and soon the characteristic ulceration appeared on the cheek. Simultaneously scarlatinal nephritis was present. The treatment of the noma consisted at first in cauterizing the gangrenous parts and the application of a 20-per-cent. zinc-chloride dressing. Internally stimulants were ordered. These measures failed to avert the disease, the destructive process continuing. Pyoktanin was now employed in 1-per-cent. solution, applied on cotton tampons, and the application repeated hourly at first, every two hours later on. The results were startling, the ulcerations healing steadily and kindly.

The author believes that in pyoktanin we possess a powerful and reliable remedy against cancrum oris.

#### GELATIN IN HEMOPHILIA

The following case occurred in Dr. C. H. Hare's<sup>2</sup> practice: A girl of thirteen, coming from a family of bleeders, and herself subject to severe attacks of epistaxis, menstruated for the first time in July, 1900. Catamenia lasted from eight days to a month and was always profuse. On December 6, 1900, she was seen by Dr. Hare for the first time. She had been flowing for two weeks and was in *extremis*. There was marked pallor and weakness, the respiration was sighing, the temperature 102°, and pulse 150. Salt solution injections and

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 10.

<sup>2</sup> *Dent. med. Woch.*, XXVII, No. 25.

<sup>2</sup> *Bost. Med. and Surg. Jour.*, July 18, 1901.

packing with ferric subsulphate, which had to be repeated three times because of leaking, were of no avail. On December 8 she was delirious, and death was expected. As a last resort a half pint of 1 per cent. solution of sterilized gelatin was injected under the breast during the morning and again in the afternoon. The hemorrhage ceased, and the patient recovered.

#### VIOFORM AS AN IODOFORM SUBSTITUTE

Chemically, vioform is iodo-chloroxy-quinoline. It is of a yellowish color and perfectly odorless. Dr. Krecke,<sup>1</sup> of Munich, reports having used it on 195 patients. The cases included operations in various regions of the body, ulcers of the leg, chancroids, abscesses, buboes, phlegmons, etc., and he states that in his opinion, based upon this extensive experience, vioform is a perfect substitute for iodoform, and has the advantages of being odorless and non-irritating. He used it almost exclusively in the form of gauze, which he prepared in the following manner: 50 Gm. of vioform were thoroughly mixed and suspended in a mixture of 200 Gm. of glycerin, 200 Gm. of sterilized water, and 100 Gm. of alcohol, and sterilized gauze was impregnated with this mixture.

#### AIROL IN OPHTHALMOLOGY

Notwithstanding the progress of late years, the treatment of serpiginous corneal ulcer remains in severe cases largely ineffectual, and only too often an almost complete destruction of the cornea takes place. In view of this, a new method of treatment is welcome. Dr. Jan Stasinski<sup>2</sup> contributes a mode of dealing with this affection, which he has tested in thirty cases of *ulcus serpens*. With one exception only, good results were obtained.

As is generally admitted at present, the exciting micro-organism of *ulcus serpens* is Frankel-Weichselbaum's pneumococcus, and a rational treatment must be directed to the cause of the disease. The first object is to prevent a prolonged contact of the cornea with the microbes, and thus protect it from further infection. Irrigations and washes are insufficient for this purpose; it is imperatively necessary to cover the corneal defect. The best protective for ulcerated corneal patches is, according to the author, airoi, a bismuth preparation containing iodine and gallic acid,—namely, bismuth oxyiodogallate. The remedy has efficient exciting properties, due to its bismuth, and

it adheres to the ulcerated surface better than any other antiseptic. The iodine contained in airoi is brought into contact with ptomaines, its iodine is slowly liberated and acts germicidally with remarkable efficiency.

The second indication is to destroy or weaken the micro-organisms. Those occupying the superficial layers can be reached and eliminated by means of antiseptics, irrigations, cauterizations, etc. Not so when the microbes have forced their way deeper into the tissues. Here we must resort to indirect measures, and chiefly by stimulating the circulation of the lymph, attempt to eliminate the bacteria. This stimulation is best accomplished by injections into the conjunctiva. Formerly strong antiseptics were employed; at present, salt solutions.

A third indication calls for appropriate management of the iritis always accompanying the ulcer, and this is partly met by adding atropine to the sub-conjunctival salt injections. The author's method may be summarized as follows:

After anesthetizing the cornea and conjunctiva with cocaine, the eye is irrigated with a bichloride solution (1:5000). The ulcer is then curetted, touched with a pledget of cotton soaked in tincture of iodine, and 1 to 1½ Cc. of a 5-per-cent. salt solution is injected under the conjunctiva. To render the injection painless, cocaine (and acoin in very sensitive persons) may be added:

Acoin.....	1	part
Cocaine.....	2	parts
Atropine.....	¼	part
Distilled Sterile Water.....	100	parts

Following the injection the eye is again irrigated with mercury bichloride; and now airoi is applied to the ulcer and rubbed in with the convex surface of the curette. The lids are held half open for half a minute and the patient then allowed to close them, in order to see whether the airoi has been brushed off in the act. Finally airoi is dusted over the entire cornea and an immobilizing dressing applied to both eyes. The affected eye receives also a Priessnitz compress. Six to nine hours later the dressing is changed. As a rule the powder, colored reddish-brown by the liberated iodine, can be seen adhering to the ulcerated surface. Atropine with cocaine is now dropped into the eye, a sublimate irrigation follows, and the procedure with airoi is repeated.

In cases with considerable myosis, atropine may be added to the airoi (atropine, ¼ grn.; airoi, 2 dr.). If the ulcer does not progress after twenty-four hours and the hypopyon has disappeared, the procedure mentioned is repeated twice daily without

<sup>1</sup> *Munch. med. Woch.*, 1901, No. 33.

<sup>2</sup> *N. A. Jour. of Diag. and Pract.*, Aug., 1901, from *Therap. d. Gegenw.*, May, 1901.

injections; otherwise the injection is also repeated. The author never had to use more than five injections.

As soon as the ulcer becomes clean, an airol-salve is applied instead of the powder:

Airol.....	15 grn.
Atropine.....	$\frac{3}{4}$ grn.
Boric Acid.....	$\frac{1}{2}$ grn.
Vaselin.....	2 $\frac{1}{2}$ dr.

This ointment is applied four times daily, hot fomentations being used in the intervals. In cases of threatened perforation the ulcer is not curetted before employing airol. Otherwise the procedure is the same in these cases as in those presenting complete perforation.

The author lays stress on three points in his method:

(1) Large quantities (1 to 1 $\frac{1}{2}$  Cc.) of strong salt solutions are to be employed for the injections.

(2) The ulcer should be curetted and touched with iodine, as described before.

(3) Airol must be rubbed into the ulcer.

As stated heretofore, out of thirty cases treated by the author, twenty-nine were completely cured.

#### TREATMENT OF THE NASOPHARYNX IN SCARLET-FEVER

The gravity of nasopharyngeal complications in scarlatina and the importance of an active treatment need not be insisted upon. Dr. A. Seibert<sup>1</sup> recommends the following mixture, to be given internally:

Tr. Iodine.....	$\frac{1}{2}$ dr.
Potassium Iodide.....	16 grn.
Distilled Water.....	4 oz.
Carbolic Acid.....	10 dr.

A teaspoonful every hour.

This medicine, slowly swallowed in reclining posture, achieves a superficial disinfection of the pharynx. A child of one year and older may safely take this mixture for four to five days in succession. Intoxication with carbolic acid has never been observed in the author's experience of twenty years. Mild symptoms of iodism have been noted, but usually disappeared quickly.

For the purpose of cleansing and disinfecting the mucous surface in scarlatinous nasopharyngitis, Dr. Seibert employs irrigations of 1 to 5 per cent. warm solution of ichthyol. Half a pint is allowed to flush the nares and pharynx every six hours. The solution is injected from a fountain syringe, held about three feet above the patient. This method is very efficient in cases where the parts are not so swollen as to obstruct the flow of the fluid into the

pharynx. When the obstruction is present, however, a more energetic course of action is indicated. For these cases the author uses a 50-per-cent. solution of resorcin in alcohol, applied locally to the nasopharynx by means of a cotton carrier. One such application daily will suffice and the treatment is applicable to the youngest infants. The underlying principle of the author's methods is the attempt to destroy the bacteria of scarlatina wherever they are accessible. Following the same idea, he advises inunctions of an ichthyol wool-fat ointment for the dermatitis of scarlet-fever.

#### REPORT ON SACCHARIN

Numerous investigators have proven that saccharin is a perfectly harmless substance and that it may be used as a substitute for sugar in doses up to 2 dr. daily with impunity. Recently, however, experiments were made by Bornstein which seemed to show that saccharin has a noxious influence over the metamorphosis of albumin in the economy, and occasionally causes diarrhea. Dr. R. O. Neumann<sup>1</sup> undertook to investigate these assertions. He made a series of experiments with saccharin lasting thirty days, during which period large quantities of the substance were ingested. The author's conclusions are as follows:

(1) Saccharin has an intensely sweet taste, when taken in small doses. Large doses produce a gustatory sensation, which can no longer be classed under "sweet." (2) Small doses do not influence the albuminous metabolism in any way. (3) No untoward effects, like headache, nausea, vomiting, etc., were noticed. (4) The utilization of food in the economy remained uninfluenced. (5) Saccharin is an absolutely harmless substance when taken in the usual quantities.

#### TAMPONS IN GYNECOLOGY

Dr. M. Benjamin<sup>2</sup> states that a vaginal tampon serves a double purpose: it is employed both for its medicinal and its mechanical effects. The remedial agents may be applied for the relief of pain, or to produce counter-irritation, absorption of inflammatory products, or contraction of relaxed tissues. As an adjuvant, glycerin is most valuable; it is hygroscopic and tends to soften a hardened os and also aids in reducing over-distended uterine blood-vessels. In erosion of the cervix, a tampon saturated with a 25-per-cent. solution of ichthyol in glycerin will, besides its germicidal action, cause a desquamation of the

<sup>1</sup> *Arch. of Pediatrics*, XVIII, No. 8.

<sup>2</sup> *Münch. med. Woch.*, XLVIII, No. 26.

<sup>3</sup> *Med. Record*, LX, No. 3.

epithelial cells of the cervix, which is followed by a regeneration of epithelium and the return of the cervix to a normal condition.

Chronic endometritis and parametritis are benefited by a tampon of boroglycerin or ichthyol in glycerin (15 per cent.), placed beneath the cervix. The packing also has the effect of elevating the uterus and thus improving its circulation. In subacute salpingo-oöphoritis, the vaginal mucous membrane surrounding the inflammation should be painted with tincture of iodine, and a tampon of boroglycerin or ichthyol in glycerin (25 per cent.) should be placed against the swelling. The iodine is applied by means of a cotton applicator and care must be taken to express the superfluous iodine, so that only the required part of the vagina will be painted. The same treatment will be found efficient in pelvic peritonitis.

#### DIONIN IN OPHTHALMIC PRACTICE

At a recent meeting of the St. Petersburg Ophthalmological Society a paper on the action of dionin in eye diseases was read by Dr. A. E. Batalov.<sup>1</sup> He said that the experiments made in Prof. Belliarminov's clinic have shown that dionin has no effect on the pupil, nor on accommodation or intra-ocular pressure; but it increases diffusion into the anterior chamber  $3\frac{1}{2}$  times. He used dionin in 119 cases, in 5- to 10-per-cent. solutions, or in substance, and in all cases the analgesic action was very marked. Excellent results were obtained in phlyctenular conjunctivitis. In inflammation of the cornea, the latter also cleared up much more rapidly after the use of dionin. The only drawback to the use of dionin is the chemosis which it causes when used in substance or in 10-per-cent. solution (but not in weaker solutions). Prof. L. G. Belliarminov said that dionin had a remarkable analgesic action in acute glaucoma. In several cases in his practice the excruciating pains, which did not yield to pilocarpine or eserine, disappeared after the application of a 10-per-cent. solution of dionin, and this disappearance of the pains was also followed by a sound sleep. No irritation was ever caused by dionin. As a 10-per-cent. solution of dionin gives a sediment unless warmed, Prof. Belliarminov advises to apply the drug in the form of a salve.

Prof. Andogsky corroborated the remarks of Prof. Belliarminov, stating that he found the severest ocular pains disappeared after the application of 2 or 3 par-

ticles of dionin. He also had good results in detachment of the retina; in several cases the area of detachment became immediately smaller and the vision became better. The further progress of the detachment was stopped in all cases.

#### ATROPINE IN INTESTINAL OBSTRUCTION

The treatment of intestinal obstruction with atropine is one of the more recent features of therapeutic progress. Numerous favorable instances have been reported, and Dr. Ludwig Kreitner<sup>1</sup> contributes a successful case in his own practice. The patient, a woman of seventy-seven, was suddenly taken ill with vomiting and intestinal colic. She had been constipated for twenty-four hours and could pass no wind. All attempts at producing a movement of the bowels failed. The abdomen became more distended and soon a smooth, elastic tumor appeared in the right side. The percussion note over the swelling was tympanitic.

The general condition rapidly became worse, the pulse small and frequent. On the third day an injection of  $\frac{1}{30}$  grn. of atropine was given, and two hours later sleep and relief from pain followed. Some wind could now be passed and a second dose of atropine, this time  $\frac{1}{20}$  grn., was administered. Several hours later wind was freely passed and a copious evacuation soon took place. Complete recovery in a few days.

#### DIFFERENCE BETWEEN METHYLENE BLUE AND METHYL BLUE - CHEMICAL TEST FOR DISTINGUISHING

Every physician who has had occasion to prescribe methylene blue, medicinal, knows how frequently other substances are substituted for this drug. The substitution is generally unintentional, and results from the confusion existing in the druggist's and prescriber's mind as to the true identity of the drug. The most common substitutions are methyl blue and the dye methylene blue. Dr. Achilles Rose<sup>2</sup> has also had many unfortunate experiences in this respect, frequently being supplied with methyl blue, when the prescription called for methylene blue. He therefore cautions physicians to be very careful in specifying the drug, and to go to the drug-store and examine the label for themselves, so as to be sure that the right article is dispensed.

He also gives the following chemical test, which is easily performed and by which methylene blue can at once be differentiated from methyl blue: A diluted solu-

<sup>1</sup> *Vratch.*, 1901, No. 19.

<sup>1</sup> *Centralbl. f. Therap.*, XIX, No. 7.

<sup>2</sup> *Post-Graduate*, XVI, No. 9.

tion of *methyl blue* becomes decolorized on the addition of ammonia water; a solution of *methylene blue* (even if very highly diluted) is not decolorized by water of ammonia.

Care must also be taken, in prescribing, not to abbreviate, but to write out in full: Methylene blue, *medicinal*. [Chemically, methylene blue, medicinal, is tetra-methylthionine hydrochlorate; methyl blue is triphenyl-pararosaniline-trisulphonate of sodium, and is used as a dye. Then again there are two distinct kinds of methylene blue on the market: Methylene blue *medicinal*, such as made by Merck; and regular methylene blue *dye*, which is not eligible for use in or on the human body on account of its toxicity.]

#### CORPULIN OR KORPULIN

Under this name have appeared on the market, tablets which are recommended for obesity. They are said to consist of extract of bladder-wrack, tamarinds, and cascara sagrada. Experiments instituted in the clinic of Prof. v. Noorden,<sup>1</sup> in Frankfort, show that corpulin produces symptoms which so far have only been observed under the administration of thyroid, and to a certain extent also of ovarian preparations. It increases the destruction of albumin to such an extent that it cannot be considered a harmless remedy; it is a toxic remedy, to be administered only under medical supervision. The possibility of its containing thyroid extract, though the manufacturers make no mention of it, is not excluded.

#### CAFFEINE IN CARBOLIC-ACID POISONING

Dr. G. A. Ferraby<sup>2</sup> reports a case of poisoning with crude carbohc acid. He saw the victim three hours after the accident. The patient was deeply comatose, the skin cold, covered with perspiration and markedly cyanotic. Respiration was slow and stertorous, the pulse almost imperceptible; in short, the patient appeared to be in a dying condition. A hypodermic of strychnine and apomorphine was given with little effect. The stomach was then thoroughly washed out with a stomach siphon. The patient was so deeply comatose, and the reflexes were so lowered, that the stomach-tube, when it entered the larynx and trachea, in being passed in excited no coughing. As the strychnine had apparently no effect in lessening the coma or the profound respiratory and circulatory depression [it is not stated what amount of strychnine was injected], the author in-

jected 5 grm. of caffeine-sodium salicylate, containing about 2½ grm. of caffeine. In about an hour the patient's condition was improved, and another hypodermic of caffeine, of the same strength, was given. In about half an hour he recovered consciousness, and although his condition was precarious during the day, he made an uninterrupted recovery.

The author thinks that the caffeine had considerable influence in combating the depression due to the absorption of the phenol and cresol. The caustic effect produced by the acid was very slight.

#### THIOSINAMINE

This drug was the subject of an interesting discussion at the recent annual meeting of the German Dermatological Society, held at Breslau<sup>1</sup>. Prof. Neisser said that he obtained very good results in scleroderma from the hypodermic injection of thiosinamine. He used the following formula: Thiosinamine, 10 Gm.; glycerin, 20 Gm.; distilled water, 70 Gm., of which he injected 0.5 to 1 Cc. (8 to 16 min.) Dr. Juliusberg said that he also obtained good results from thiosinamine in the scars following lupus. Similarly favorable experiences were reported by Galewski, Caspary, and Chotzen. Dr. Rille said that he did not see any strikingly beneficial results from the use of the drug. Dr. Spiegler said he believed that thiosinamine did possess the action ascribed to it, but that action was not peculiar to it alone; it was common to all amides, and also to various tar and benzol derivatives.

#### UREA IN TUBERCULOSIS

The treatment of tuberculosis with pure urea has been receiving considerable attention lately. [See MERCK'S ARCHIVES, June, 1901, pp. 214, 237.] Urea was hitherto looked upon as a waste product only. According to Dr. Henry Harper<sup>2</sup> urea is "a constructor or builder-up when administered in tuberculosis." It is an antitoxin for the tubercle bacillus. Patients taking urea by the month, either pure or in the form of kidney, liver or brain (substances rich in urea), show an unmistakable improvement. The author believes that there is a certain antagonism between the uric-acid diathesis and tuberculosis. It would seem as if gouty patients possess an antitoxin against the tubercle bacillus, and this antitoxic substance is probably urea.

The substance is administered in the chemically pure form in doses of about 20

<sup>1</sup> *Cent. f. d. ges. Therap.*, XIX, No. 8.

<sup>2</sup> *Brit. Med. Jour.*, Sept. 14, 1901.

<sup>1</sup> *Klin.-therap. Woch.*, 1901, No. 31.

<sup>2</sup> *Lancet*, No. 4059.

grn., several times daily. Organs containing it are at the same time taken as food. Improvement does not fail to show itself in a short time.

There are some established facts which seem to receive a new light from the author's view on urea. It is recognized that alcoholics easily acquire tuberculosis. This the author explains by referring to the lessened production of urea in the liver in persons taking alcohol. Another fact illustrates the reversed relation. Pregnant women seldom die from tuberculosis, the disease becoming quiescent during pregnancy. Some antitoxin must therefore be present in this condition. Considering that eclampsia is caused by an accumulation of excrementitious matter and bringing the two facts together, we may reasonably [?] conclude that the antitoxin in question is urea. Another illustration. In pleurisy, so long as the fluid remains in the thoracic cavity, the activity of tubercle bacilli is kept in check. Now, the pleuritic fluid being rich in albumen and containing urea, uric acid, etc., we may well attribute the standstill of the disease to these products of regressive metamorphosis. These facts form the foundation of the author's urea treatment of tuberculosis.

It is interesting to note, says Dr. Arthur H. Buch,<sup>1</sup> that urea in the form of urine is an old and popular remedy, used by the natives of Media at the present day in cases of lung disease. The author firmly believes in the beneficial action of urea in tuberculosis. He used the remedy in quantities varying from 20 grn. to 1 dr. thrice daily. Several cases of lupus, tubercular gland-affections, etc., treated by the author in this manner showed marked improvement. The method, he believes, has a future.

#### STYPTICIN IN METRORRHAGIA

Dr. Achilles D'Alessandro<sup>2</sup> has used stypticin (cotarnine hydrochlorate) extensively in his gynecological practice, and his experience is in full accord with that of other observers. His conclusions are as follows:

Stypticin is extremely useful in hemorrhages of the menopause, not connected with any neoplasms; in the congestive menorrhagias and metrorrhagias of young girls; in hemorrhages depending upon subinvolution following normal labor or an abortion; in hemorrhagic metritis, and in metrorrhagia symptomatic of periuterine or adnexial disease. Internally it is given in tablet or pill form— $\frac{3}{4}$  grn. three to eight

times daily. Being very soluble in water, it is well adapted for hypodermic medication—30 min. of a 10-per-cent. solution may be injected into the gluteal region. The injections are not painful. The drug does not exert a poisonous action on the heart, nor has it any other toxic action. As to its *modus operandi*, it is to be noted that it is not an oxytocic, nor does it provoke or increase uterine contractions. Its beneficial effect is due to its action on the vasoconstrictors and on the nervous system.

#### IODOGENOL

At a meeting of the Therapeutic Society of Paris, Drs. Pépin and Lebourcq<sup>1</sup> read a paper on a new iodine preparation, iodogenol. It is a combination of iodine with peptonized albumin. According to the author, it gives good results in obesity, arthritis, gout, and in all cases where the alkaline iodides are not well borne.

#### SODIUM CACODYLATE

Our established preparations of arsenic—Fowler's solution, sodium arsenate, liquor acidi arsenosi, and others—have all the disadvantage of being irritating. The recently reintroduced organic compound of arsenic—sodium cacodylate—is claimed to be exempt from irritating qualities. A new report on its value comes from Dr. E. M. Dupaquier<sup>2</sup> of New Orleans. The author employed French preparations at first, but lately he has used Merck's cacodylic acid and sodium cacodylate, both being especially pure articles. Twenty-one cases are under the author's treatment, and of these nine may be selected as showing definite results: four cases of pulmonary tuberculosis, two cases of skin diseases, three of severe anemia, two of malarial, and one of rheumatic, origin.

The drug was administered over long periods, preferably by hypodermic injection. As much as 1 grn. daily may be given for days and even weeks. None of the usual toxic effect, as puffiness about the eyelids, etc., were observed. In some cases a garlicky odor of the breath made its appearance. The therapeutic value of the drug was well shown by most of the cases, and the author recommends its further trial.

For hypodermic use the following formula is satisfactory: Cacodylic acid, 1 dr.; caustic soda or sodium carbonate, a sufficient quantity to saturate; distilled water, enough to make 3 oz. This can be sterilized and will then remain perfectly neutral.

<sup>1</sup> *Phila. Med. Jour.*, VIII, No. 11.

<sup>2</sup> *Gazz. med. d. Torino*, LVI, No. 13.

<sup>1</sup> *Reper. de Pharm.*, 1901, p. 377.

<sup>2</sup> *New Orleans Med. and Surg. Jour.*, LIV, No. 2.

# MERCK'S ARCHIVES

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OCTOBER, 1901

It is always well to bear in mind that the discovery of the specific cause of a disease does not necessarily lead to a specific treatment, or even to an improvement in the old treatment. The hopes entertained at the time of the discovery of the tubercle bacillus have not become realized; all the specific cures for phthisis have so far been failures; hygiene, diet, and fresh air still play a very important rôle. The specific, antiseptic cures for dysentery have not proved successful in spite of the discovery of the bacillus of dysentery. Prof. Kruse, probably the greatest authority on the subject of dysentery, felt recently impelled to declare that "from previous experiences we must conclude that the prospects for a successful specific treatment of dysentery are not bright. We are thrown back on our old resources." And has a better remedy than sulphur or some of its modern combinations been found for the itch, since the discovery that the cause and origin of the latter reside in *Sarcoptes scabiei*?

LONG live the faddists and the zealots. They contribute a good share toward the gaiety of this world. We often think that life would be entirely too monotonous without their antics. This time it is the "anti-corsetists." All physicians and probably most laymen agree that tight-lacing is injurious. That a well-fitting corset has such baneful effects as the anti-corset crusaders would make us believe, is very questionable. But even if it had, the immoderate and silly language used by those faddists is not calculated to convince anybody. Here is an excerpt from a diatribe of which one anti-corset crusader delivered herself recently:

"The corset curse among women is more insidious than the drink curse among men. Both sins seek to extenuate themselves on the plea of moderation. A woman can no more be trusted with a corset than a drunkard with a glass of whiskey. More harm to the health and vitality of our race as a whole is done by corsets than by rum. This article of clothing violates the laws of good health. It weakens the body, enfeebles the mind, and dwarfs the soul!" Now, we do not wish in the least to encourage or approve of the wearing of corsets. Women would probably be better off without them; but we repeat that such "warfare" is foolish and unjustifiable, and is calculated to defeat its own objects.

For one of the alleged evils of the corset another etiological factor will have to be found. It has been asserted—and the assertion is found in medical literature, and of course in the literature of the anti-corsetists—that floating kidney is the direct result of tight-lacing. Some have even gone so far as to consider tight-lacing the sole factor in the causation of that distressing affection. Recent investigations have shown that in the Arabian women floating kidney is about as frequent as in European and American women. The Arabian women, it need hardly be mentioned, have never worn corsets, and most of them never heard of that "invention of the devil."

If there is an article in the attire of females that deserves condemnation, it is the trailing skirt, perhaps more than anything else. The long trail sweeps up the dirt of the streets, stirs up the bacilli, and carries them into the homes and schools. One physician, prominent in the work of fighting tuberculosis, recently expressed himself to the effect that no school-teacher should be permitted to come to school in any skirt longer than a "rainy day" skirt under the penalty of instant discharge.

Is there anything so labyrinthine, so unfathomable as the attempted logic of a crank? The chief argument advanced by a new set of cranks—the "raw foodists"—is this: "No oak ever grew from a boiled acorn; no plant ever sprouted from boiled or cooked or roasted seeds. *Ergo!*—cooked food has no strength and is injurious." Just as if we wanted the vegetables we eat to sprout and grow in our stomach and intestines! We had thought, until this, that our endeavor was to prevent the food that we eat from fermenting, sprouting, and growing "in our midst."

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibilities, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

### Incompatibilities of Gold Compounds

Dr. W. B. J. writes: In the following prescription—

Auri Chlorid .....	gr. j
Sod. Acetat. ....	gr. xx
Aquæ, q.s. ....	℥j
Misce, et adde:	
Sat. Sol. Sod. Carb. ....	gtts. x

I get a clear solution, but on standing a day or two a black precipitate is thrown down. What is the precipitate? The saturated solution of sodium carbonate I add to neutralize the solution of gold and acetate, 10 drops being usually sufficient.

We do not see the reason for adding any sodium carbonate, or the necessity for any "neutralizing." There is really nothing to neutralize. It is very true that gold chloride has an acid reaction; but in a solution of 1 grm. to a pint of water the acidity is practically nil. Besides, the sodium acetate has a slightly alkaline reaction. The black precipitate is due chiefly to the action of the sodium carbonate on the gold chloride; the gold is precipitated as an oxide, and later also in the metallic state. The combination of gold chloride and sodium acetate is by itself not a happy one, as the acetate is an organic radical and would have a tendency to decompose the auric compound. In our opinion, whenever it is desirable to administer gold medicinally, the official gold and sodium chloride is the best preparation for the purpose.

### Cinnamic Acid in Tuberculosis

Dr. J. B. asks: Can you give me some information on the following point, which is of very great importance to me. What do you think of cinnamic acid as a remedy in tuberculosis? Is it as good as its advocates say it is? One of my tuberculous patients went to Germany, where he stayed for over a year in the sanitarium of Dr. ——. He was treated, as far as medical treatment is concerned, with no other drug except cinnamic acid, administered intravenously. He gained during that time thirty-two pounds, and the disease now seems to be at a complete standstill. He practically does not cough nor expectorate, has no night-sweats, and the pulse is about ten beats less per minute than it was before he went to Germany. He considers himself cured. I had treated him with various creosote and guaiacol preparations, but the effects were not striking. I know, of course, that it is not safe to draw conclusions from one case, and I therefore apply to you for further information. The present patient, on whom I wish to try the treatment, is a member of my own family, and I am therefore doubly interested.

It is difficult, or practically impossible, to determine definitely the exact therapeutic value and status of any antitubercular remedy. The reason is not far to seek. When a tuberculous patient applies for treatment, the physician does at once the utmost possible to put the patient into the best condition for improvement or recovery. He does not give the patient a prescription only, he gives him directions as to diet, sleeping apartments, orders cold rubbings, makes him spend more time in the fresh air, etc. When improvement results, who can say just how much credit is due to the drug and what share of it should be attributed to the improved dietetic and hygienic conditions? In spite of what the maligners of the medical profession may say, physicians are very loath to "experiment" with their patients; they treat their patients the best they know how, and are not anxious to jeopardize their patients' chances of recovery, for the sake of establishing a scientific fact. If they do try a new remedy, it must have been well introduced and appeal to common sense, and not be opposed to well-established scientific facts.

With regard to the best German and English sanatoria, it may be asserted, without fear of successful contradiction, that the greatest share of favorable results in their patients is due to their ideal hygienic conditions. Pure, invigorating air, day and night, cold baths, highly nutritious food, massage, electricity, etc.—all these agencies contribute to the beneficial results. How is it possible, then, to determine the *exact* status of any drug that is used conjointly with other treatment? There is very strong testimony that cinnamic acid and sodium cinnamate are useful drugs in the treatment of tuberculosis, but the creosote and guaiacol preparations have still stronger, older, and more widespread testimony in their favor. The truth of the matter seems to be that no drug will accomplish much in tuberculosis unless it be accompanied by the most favorable hygienic, dietetic, and, perhaps, climatic surroundings.

Q. R.—In using vaginal douches, of what temperature should the water be? Should it be tepid or hot?

Tepid water may be used for cleansing only; otherwise it is useless, or even injurious. Where the injections are given as a curative measure, to relieve congestion, inflammation, etc., the water should be hot—the hotter the better. It should not be below 105°, and may reach 120° F. Two to three gallons should be used at a time.



## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**Professor Koch on Milk Tuberculosis.**—So far as the Congress on Tuberculosis, which was held recently, was intended to draw public attention to the great subject which its promoters had at heart, there is no doubt that it succeeded in perfection. There was something so dramatic in the sudden overturning by Professor Koch of the very notion which, as far as the world knew, he had come to bless, that public interest was at once aroused. With a program so framed as to emphasize in every way the necessity of adopting stringent measures for preventing the sale of tuberculous meat and milk, Professor Koch opened the ball by a declaration that bovine and human tuberculosis are different affairs, and that infection by milk and meat is so rare that he does not deem it advisable to take any measures against it. Needless to say that the butchers and milkmen were at once thrown into a state of jubilation by this pronouncement, and that many scornful things have been said as to the untrustworthy nature of medical dogmas. And we cannot but think that a good many of these scornful things are well deserved, and that the medical profession, or such part of it as has devoted itself of late years to the dissemination of popular pathology on this subject, may well spend its autumn holiday eating humble pie.

For the last few years we have lived in the midst of a newspaper crusade against tuberculosis. Everything has been sacrificed to simplicity of view. Infection has been made a fetish; no sooner was it shown that tuberculosis was infective, and that tubercle bacilli were to be found in milk, than it became "obvious"—dreadful word—that we were exposed to endless dangers from consuming such infected material.

Perhaps if we had not crusaded quite so much we might have had more time for logic. Perhaps if we had had less respect for authority we might have listened to those in our midst who have never ceased to say, just as Professor Koch says now, that the infection of human beings by milk is but a very rare occurrence. Let us recall that, putting mere hypothesis on one side, the proof of infection by milk depends almost entirely upon a statistical argument. The mortality from tuberculosis in its various forms has diminished greatly during the last fifty years, if we take all ages together; but we are told that it has not only not diminished, but has actually increased to the tune of 27.7 per cent., if we take only the first year of life into consideration. Moreover, we find during this first year of life an enormous preponderance of cases of *tabes mesenterica*, which is "the form of tuberculosis most identified with the reception of the tubercular infection into the digestive tract," and if this excess of intestinal and mesenteric disease is due to milk-drinking, of course, the condemnation of the milk is complete. The weak spot in the argument is that it is assumed that all these babies who are returned as dying of *tabes mesenterica*, did actually die of tuberculosis, as, of course, they ought to have done according to the official "Nomenclature of Diseases." Professor Koch has now stated publicly, and with great *éclat* that, notwithstanding the enormous consumption of milk known to contain bovine tuberculosis, the number of children shown by post-mortem examination to have been

affected with primary tuberculosis of the intestines is very small, and with our usual respect for authority, we now listen to this teaching. But it has been taught all along.

All honor to Professor Koch if he should turn out to be correct in his explanation of the facts; but as to the facts, are they not written in the records of the post-mortem rooms? And, as to the teaching, has it not been constantly held by those who chose to stand against the stream of popularized pathology, that there was no just ground for the assertion that all these *tabes mesenterica* babies were affected with primary intestinal tuberculosis?

In a paper read in 1894 before the Medical Society, Dr. Walter Carr pointed out that the tuberculous disease which occurs in children starts much more frequently in the thorax than in the abdomen. Dr. Still, speaking before the British Medical Association in 1899, demonstrated the same thing, and again in the *Practitioner* of July, 1901, gave statistics from the dead-house which showed that, plausible as is the milk theory, "the facts of the post-mortem room are overwhelmingly opposed to it." Dr. Maguire also has written in much the same sense, showing that *tabes mesenterica*, largely as it figures in statistics, is practically unknown as a cause of death in young children. Truly these investigators did not draw the distinction which has now been drawn between bovine and human tuberculosis, but they did show that we were on the wrong track in attributing so much to milk infection.

If we had not all gone a-crusading, perhaps we might have listened to the prophets in our midst, who pointed out how weak was the foundation on which all this superstructure of milk infection had been erected. Great, however, is the power of authority, and we had to wait until one even greater came from Germany to prick the bubble of our content.—*The Hospital*.

**Alcoholism Among Women.**—There is a growing tendency among women to the indulgence in alcoholic beverages. Among the wealthier and higher classes, the habit has become almost universal; and this pernicious example has rapidly extended through the various social substrata, for it is human nature to imitate the actions of those who are better favored, and a bad example, like bad news, travels fast.

The exhausting effects of the demands of society upon its devotees creates a desire for a stimulant, and hence the ever-present and generous punch-bowl is often the most popular feature of the social event. It adds a sparkle to the eye, color to the cheek, and a zest to the spirit of the maid and matron, a delightful feeling of *biên aise*, and its alluring seductiveness bids its partakers to return again and again. Many a young woman, ignorant of the taste and effects of alcoholic stimulants, has first been brought to a knowledge of its allurements at the social gathering around the punch-bowl. Once a taste, it becomes a difficult matter for women to refuse, should she desire, when offered to her in a new and tempting form, until soon an alcoholic stimulant is essential to her neurotic constitution, and the daily potion becomes a fixed habit.

A spirit of recklessness in young women to imitate in secret this vice of the male sex, is not infrequently a cause for the beginning of alcoholic indulgence, and for the continuance of which opportunities are easily obtainable. So prevalent, indeed, has it become that there are but few young women of the better classes in the cities who are not familiar with the taste and effects of alcoholic

stimulants, and too frequently the so-called attacks of nervous prostration among women are but the after-effects of alcoholic indulgences.

Among the less favored classes, the causes that obtain among the wealthy, operate necessarily to a smaller extent, but here other conditions act no less powerfully as causative agencies in the formation of the habit. In England, the habit of alcoholic indulgence among women of the lower classes is much greater than in America. It is stated that in the epidemic of arsenical poisoning, which occurred last winter in Manchester, England, and its vicinity, among beer drinkers, the majority of the victims were women. Dr. Heywood Smith, of London, gives as reasons for alcoholism among women, the increasing independence of women—a liberty which some of them interpret as license for self-indulgence in accordance with their inclinations. In the struggle for life, which this independence engenders, there is often the element of failure or overstrain, and women, too weak in many instances to bear the strain, resort to stimulants. The cares, worries, and anxieties regarding the home and children, and when especially to this may be added the husband's neglect, or the brutality of a husband who drinks, often cause women to seek forgetfulness in the stimulating effects of some alcoholic beverage.

Whatever be the cause, women seldom have the power to resist its temptation, when once they become a victim to its use, but woman-like, plunge headlong to excess. In the reformatories for criminal inebriates in England, there are five times as many women as men, according to Heywood Smith.

Men drink in company for sociability sake, but women rather in secret, which makes detection difficult at an early period. Often the family physician is called to relieve a distressed condition of the head or digestive organs, or possibly a sudden attack of nervousness in some of the female members of his most respectable families, and in response to the question of the fair patient, diplomatically gives some impossible condition as the probable cause.

The life-history of the female inebriate is identical with that of the male, the only difference being that with a more rapid loss of self-control, she passes quickly to the depths of degradation, and thus earlier reaches the end.—*Courier of Medicine*.

**Fads in Medicine.**—A fad in medicine may be defined to be a trivial fancy adopted and pursued for a time with irrational zeal, or, a matter whether important or unimportant, imperfectly understood and taken up and argued with more zeal than sense. Fads of this kind are certainly more common in medical matters than in any other department. Although the tenacity and frequency of such fads are usually in direct proportion to the ignorance of the faddist, we are fain to admit that a tendency to fads is occasionally met with even among the followers of *Æsculapius* themselves. . . . The worst form of fad is that which leads its victim voluntarily to restrict his diet, either in quantity or by the elimination of many useful articles of food. Another is that in which the faddist pins his faith to some nostrum of unknown composition, and administers it to all and sundry with touching indifference to their special symptoms. It is especially on the borderland of medicine that the fad flourishes most freely. Osteopathy, Christian Science are modern examples of the "fad gone mad," but hypnotism and elec-

tricity for long years defrayed the craving of the ignorant for a universal panacea. Human nature forbids the hope that the fad will ever be exterminated, but it is all-important that medical men should jealously guard their independence of mind and steer clear of unjustifiable faith in any particular measure or group of measures for the cure of disease. To yield to such a tendency is to degrade the practice of medicine and to abandon all the advantages associated with the progress of science.—*Medical Press*.

**Joys of a Country Doctor.**—The old-fashioned country doctor, with his saddle bags and his proverbially large pills, has passed into memory, but there still remain to carry on his work those disciples of *Æsculapius* whose tents are pitched "far from the maddening crowd," who must still overcome many of the obstacles with which he had to contend, although in many ways better prepared to meet them.

Little do the city practitioners realize the physical and mental strain under which their rural brothers are placed day after day from January to December. The country physician is expected to do work along all lines; in fact, is compelled to do it and hold himself at all times ready to meet any emergency. Like the mate of the "Nancy Jane," he must be surgeon, obstetrician, oculist, aurist, rhinologist, dentist, and veterinary, besides general practitioner, all in one. To be successful a country doctor must be ingenious, ready for anything that may come in his way, be able to devise instruments and apparatus to meet all requirements on short notice, from a very meager supply.

He must be in full control of his "nerve" at all times, for he does not know when he will be called on to meet a very alarming condition, and that, too, single-handed. Unlike the city, where in a few minutes counsel and skilled nurses may be procured, he must think it all out alone, and apply his treatment all alone, for in an emergency case most bystanders are too much frightened to be of any assistance. It may be a placenta previa, applying forceps or numberless other conditions, where at least two seem necessary, but where in many cases there is no time to wait two or three hours till help can be secured.

As an example of the physical endurance necessary, imagine yourself, after a hard day's work, riding ten to twenty miles, on a pitch-dark night, with the mud a foot deep every step of the way. Or the scene may change to a past zero night, when the icicles will form in fantastic shapes on your whiskers, so that when you arrive at your destination you must call for a pan of hot water to remove your unseemly adornments. No doubt the city doctor envies him his cool, quiet drives "along shady lanes and babbling brooks," but how would he enjoy a trip like that suggested?

The country doctor knows everyone in his territory, and callers at his office make it a rule to stay an hour or two talking over things in general; that, too, it may be, when the doctor is waiting for his dinner, or wants a little time to himself. Still, he must grin and bear it, for upon the people depends his daily bread, which in some cases is a misnomer (coming only every second day).

He must take from his bad patrons wood, corn, hay, etc., and a large portion of the remainder wait six months or a year, and then make several trips to collect it. It will offend the people if he sends a bill or someone else, so he must go in person. This, too, with fees that are already too low.

He is expected to be a traveling health report of all the sick under his care, for almost everyone

he meets will say, "How is John Jones' baby?" or, "Sam Smith's wife will never get well, will she?"

A doctor must also look pleasant and smile when people say (as most of them do), "How are you, Doc? Is there much sickness now?"

Every boy who can find a lemon essence bottle or two will bring them to you to sell, and you must buy them or you may offend the family. Very often your own bottles will be brought back when their contents are not yet paid for. Every case is diagnosed by all the old women in the township before the doctor arrives, and of course he is expected to give his opinion, when those who concur say, with a triumphant look at the others, "That's what I thought."

According to country tradition a lying-in woman must not be washed or have her linen changed till the third day; a baby must nurse during its second summer; a diarrhea must not be checked during teething; flannel must be worn till the teeth are all cut; for a diuretic in the newborn, give water-melon seed tea; for abscess of the breast, use cow-dung poultice; when a child picks its nose, it has worms; and dozens of other notions which the doctor must often overcome, and are, as the Irishman said, "Equally worse." I am glad to see, however, that the more intelligent people are getting above this sort of thing and are trusting more in the doctor.

The country physician is fast coming to rank with the best in education, intelligence and skill, although by reason of his location he will always be handicapped in many ways. More trained nurses are being used in the country, which will not only make the work less arduous, but will bring better success as well. Of course he has many advantages found nowhere else, such as pure air, plenty of fresh milk, and usually good water.

Life is such that we all have our joys and our sorrows, and this is not intended to convey the meaning that no one but a country doctor has hardships, but merely to give a few points from his view of the matter of conditions as they actually exist. Probably the reader will like to suggest a different heading for this article by this time.—H. A. Giltner, M.D., in *Wis. Med. Recorder*.

**The Abolition of the Army Canteen.**—At the time when the exertions of well-meaning, but ill-advised, temperance enthusiasts resulted in a decree of Congress doing away with the army canteen, the prediction was made in the *Medical Record* that this course would be found, after trial, to have been a grave error of judgment.

The warning has been fully borne out by the testimony offered by an overwhelming majority of army officers, medical and otherwise, in favor of the canteen, as well as by the opinions in the same direction tendered on the part of the medical profession generally.

Captain Edward L. Munson, assistant surgeon U. S. A., read before the meeting a paper containing voluminous statistics, culled from his work on military hygiene, which went to show the undeniable benefits that had accrued to soldiers from the establishment of the canteen. For example, to quote a few of the facts thus collected, it is stated that in the six years subsequent to the introduction of the canteen, admissions to the army hospitals for alcoholism declined 23.6 per cent.; cases of delirium tremens were less by 31 per cent.; cases of insanity by 31.7 per cent. The annual average of convictions by court martial for drunkenness was brought down from 372 to 160; the rate of desertion decreased from 9 to 4.5 per cent., and

the number of soldiers depositing money increased 13 per cent.

Dr. Charles R. Greenleaf, assistant surgeon-general U. S. A., late chief surgeon of the army in the Philippines, recorded his belief in the efficacy of the canteen in promoting the physical and moral welfare of soldiers, as did Dr. Albert L. Gihon.

Hard facts such as these cannot be disregarded, and while allowing to the opponents of the system the possession of the most estimable of motives, it cannot but be conceded that the opinions of army officers who have the subject at their fingers' ends, and to whom the well-being of the soldiers must be a matter of the first importance, should weigh more with Congress than the views of irresponsible and enthusiastic reformers who are deplorably ignorant of the true merits of the question. So convinced were the members of the Public Health Association present at the recent meeting at Buffalo of the cogency of the arguments advanced on behalf of the army-canteen system that with singular unanimity they passed the following resolution: "That this body deplores any action in curtailing the operation of army canteens or post exchanges as formerly existing in the United States Army, and in the interest of general and military sanitation and temperance recommends their establishment on their former basis."

Our country's legislators cannot fail to be impressed by the remarkable consensus of opinion in favor of the re-establishment of the army canteen prevailing among army medical officers and among all those best qualified to judge of the case in a dispassionate manner, and will doubtless act in accordance with these views.—*Med. Record*.

**Perspiration During Exertion.**—Of course we all know how useful a good diaphoresis may be when from any cause the excretion of nitrogenous material by the kidneys is interfered with; but we doubt if many of us quite recognize how very large a proportion of the total nitrogen excreted passes off by the skin when free sweating takes place as a result of exercise. Certain observations made by Drs. Zuntz and Schumberg in regard to the metabolism of soldiers on the march have brought to light some very interesting facts as to the effects of steady exercise. Among other things investigated were the amount and the character of the perspiration. The soldiers under examination were clothed in specially washed garments, and after the march was over, when the amount of nitrogen absorbed by these clothes was estimated, it was found that as much as 12 per cent. of the total amount of nitrogen given off in the urine and the feces might be excreted in the sweat during hard work. It is important to note that increase in this output in the sweat seemed to be related to heat of weather rather than to increase of load. The bearing of this on the question of clothing is sufficiently obvious. Perspiration is a part of the heat regulating mechanism, and unless the sweat can evaporate it fails in its object. Clothing should therefore be porous so as to allow of evaporation. That we have always recognized. But what is particularly shown by these researches is the very large amount of nitrogenous waste which is contained in this perspiration, waste which does not evaporate, but remains in the pores of the clothes, rendering them offensive and dangerous. Not only, then, must the clothes worn by those undergoing exertion be porous to allow of evaporation, but they must be capable of being frequently washed. Otherwise the unfortunate man will walk about clothed in his own excreta—as we fear too many people do.—*The Hospital*.

## Correspondence

### The Late President McKinley

#### MERCK'S ARCHIVES:

In the President's case the surgeons were remarkably expert and the operation was most complete and thoroughly scientific; but no doubt the injury was fatal from the beginning. As one prominent pathologist stated, "the President's nervous system was constantly toned up to the highest pitch, and in receiving this severe injury there was a lack of nerve force to carry the patient through the crisis." The constantly rapid and feeble pulse was a sure indication of severe nervous prostration, and judging from what we have seen, the patient never fully recovered from the "shock" attending the injury. It is well known that gangrene is not idiopathic, but an effect which may be produced by various causes, and is not necessarily produced by gunshot wounds. During the war, as we have seen, gangrene was quite common where the men were exhausted from long marches, poor food, and exposure, and it is well known, that a gunshot wound or any kind of wound, is liable to produce gangrene in any case of severe prostration or extreme debility. How well we see this principle illustrated in old, debilitated subjects: if an operation be performed in such a case, as a rule, the wound shows no disposition to heal, gangrene ensues, and the patient dies, not from gangrene, but from "shock" and nerve exhaustion. . . . In the President's case we had, first, the severe shock, then the feeble pulse with other impaired physiological action, and then gangrene and collapse, following complete nerve exhaustion. May we not, then, regard "shock" as the true cause of death in this case? Inasmuch as we are all anxious for truth and enlightenment, the writer will be pardoned for not allowing this case to pass unnoticed, without some comment.

GEORGE A. WILLIAMS, M.D.,  
Bay City, Mich.

### Turpentine in Sepsis

#### MERCK'S ARCHIVES:

In your August, 1901, number, p. 319, is an abstract entitled "Treatment of Sepsis—a New Method." The method is not new, but has been published in the *Giornale Internazionale delle Scienze Mediche* (1891); *Gazzetta medica di Torino* (1891); and the *Policlinico di Roma* (1891). It was used by Albertini in septic peritonitis, first, and afterward in cases of pleuritis, pneumonia, etc., as a derivative. I have used the injection of turpentine myself several times, with some good effects, but the method is rather painful.

P. DE VECCHI, M.D.,  
San Francisco, Cal.

### Treatment Wanted

#### MERCK'S ARCHIVES:

I wish to ask the readers of the ARCHIVES to suggest some treatment for the following case: Young man, aged twenty-four, generally in good health; temperate habits; presents occasionally the following distressing symptoms: Severe palpitation of the heart, with irregular pulse, dizziness, so that he must support himself in order not to fall; belching of large amounts of wind. As soon as he has belched wind he feels relieved. These attacks he has only once or twice a week; in the intervals he feels very good. He has been treated by many physicians, but the relief is only slight or temporary. I take it to be a case of stomachic vertigo, and have treated him accordingly, but

with only slight benefit. He has given up tea and coffee and all alcoholic beverages, and eats moderately of easily digestible food. Among the remedies that he used may be mentioned: Mixture of rhubarb and soda, nux vomica, Hoffmann's anodyne, charcoal, bismuth subnitrate, sodium phosphate, sulphur, calcium sulphide, zinc and sodium sulphocarbates, salol, resorcin, beta-naphthol, hydrastis, pepsin, hydrochloric acid, nitro-muriatic acid, etc. Will any of the ARCHIVES readers offer a suggestion? I should have mentioned that the patient has been suffering this way for six years.

Dr. J. V. W.,  
Pittsburgh, Pa.

### Echinacea in Typhoid Fever

#### MERCK'S ARCHIVES:

Typhoid fever was very prevalent about a month ago in a locality not far from here. I treated adults with the Woodbridge treatment, which was also given to several children, but it proved too drastic for them. I thought that I would try a more mild treatment, and therefore gave an initial dose of calomel, to children from three to six years old; also 5 drops of echinacea (specific, Lloyd's) every four hours, and 10 drops of baptism, specific, in 4 oz. of water, one teaspoonful every two hours. The children made a speedy recovery, not being sick over ten days or two weeks.

JACOB BALL, M.D.,  
Turtle Creek, W. Va.

### Examinations for Army Medical Department

#### MERCK'S ARCHIVES:

The examination of applicants for appointment as assistant surgeon in the army has been resumed in Washington and San Francisco; the Army Medical Boards convened in those cities will remain in session so long as there are candidates to be examined. Seventy-six vacancies in the Medical Department still remain to be filled, and as it is desired by the military authorities that the department be filled up to its full legal limit as early as practicable, all eligible applicants will be afforded opportunity for examination. Those found qualified will be commissioned at an early date. Full information as to eligibility, nature and scope of examination, etc., may be obtained upon application to the Surgeon-General, U. S. Army, Washington, D. C.

### Silver Nitrate Injections in Phthisis

#### MERCK'S ARCHIVES:

In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia, and there is reason for believing that this procedure—which resulted in gathering 400 cases of this disease thus treated, with a death-rate not quite 5 per cent.—was an important factor in calling attention to the utility of that treatment, and in introducing it to the profession of this country. It is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which in a large hospital, dispensary, and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above-expressed feeling, a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis, and to whom a reprint on the subject, with full information and blanks to report cases, will be cheerfully sent on application.

THOMAS J. MAYS, M.D.,  
1829 Spruce street, Philadelphia, Pa.

## Book Reviews

PERU. HISTORY OF COCA, "The Divine Plant of the Incas," with an introductory account of the Incas, and of the Andean Indians of to-day, by W. Golden Mortimer, M.D. This is a large volume of nearly 600 pages, printed on calendered paper, handsomely bound, and containing 178 well-executed illustrations. It represents a great deal of labor and research on the part of the author; but, in spite of this, we are constrained to ask, *cui bono?* For what purpose and for what class of readers was it written? For physicians, the book contains too much irrelevant matter, too many anecdotes and useless verbiage. To the laity it would prove a most dangerous book; the belief that in coca we possess a most wonderful—in fact, magical remedy, potent for boundless good and altogether free from any deleterious by-effects—is a pernicious tenet and might work great injury among lay readers, who are, as we know, so proverbially fond of self-treatment. As physicians we must condemn this apotheosis of coca. In short, with our utmost desire to be fair to the author, we cannot regard the book in any other light than as a well-veiled panegyric on the virtues of Vin Coca Mariani. It is to the latter—that is, to Mariani and not the wine—that the book is dedicated. That the book, however, contains much entertaining and instructive matter is frankly admitted. (J. H. Vail Co., New York. Price, \$5.)

LES GRANDS SYMPTÔMES NEURASTHÉNIQUES, par le Dr. Maurice de Fleury. This is one of the clearest and most satisfactory treatises on the subject of neurasthenia and its treatment that we have ever come across. It treats of the subject in all its details—a chapter each is devoted to sensation of fatigue, circulatory troubles, digestive troubles, disorders of sleep, disorders of nutrition, and of the male and female genital system, etc. (Felix Alcan, Paris. 407 pages. 1901.)

PRACTICAL FIRST PRINCIPLES, exemplifying the study of normal and abnormal structure and function, and aiding diagnosis, by A. H. P. Leuf, M.D. A useful and suggestive little work, especially for students and beginners. It endeavors to give a philosophic insight into the cause of disease and to show the unity of pathologic processes. Its chapters on histology are at the same time clear and original. A study of the book will well repay the student and the busy practitioner. (The Medical Council, Philadelphia. 1901.)

Von Esmarch's work on operative surgery has become a classic in Europe. We think a vote of thanks is owing the translators for having made this splendid work accessible to English readers. The full title of the book is *SURGICAL TECHNIC: A TEXT-BOOK ON OPERATIVE SURGERY*, by Fr. von Esmarch and E. Kowalzig. The translators are Prof. Ludwig H. Grau and William N. Sullivan, and the editor Prof. Nicholas Senn. The typography and binding of the work are excellent. The indices of names and of subject-matter largely facilitate the use of the book. It contains 1,497 illustrations and fifteen colored plates, all clear and distinct. We have many excellent textbooks on operative surgery, and Von Esmarch's easily ranks among the first. (The Macmillan Company, 66 Fifth avenue, New York. Cloth; 866 pages. Price, \$7.)

The third volume of Allchin's *MANUAL OF MEDICINE* is now before us. Like its predecessors,

it is a welcome addition to our library. While not as exhaustive as some of the larger systems, it is sufficiently comprehensive and complete for all practical purposes. This volume treats of Diseases of the Nervous System, and is thoroughly up-to-date. The anatomy and histology of the nervous system is in accordance with the latest researches. There are six colored plates and a table of spinal segments. The illustrations answer their purpose well, but the language in the Physiological Introduction might, we think, be somewhat clearer than it is. (The Macmillan Company, 66 Fifth avenue, New York. Cloth; 416 pages. Price, \$2.)

Dr. Paul Sollier, the well-known author of "The Genesis and Nature of Hysteria," has written another book on the subject: *HYSTERIA AND ITS TREATMENT* (*L'Hystérie et son Traitement*). The work is intended for general practitioners, the author believing that it is in their domain that the treatment of hysteria rightfully belongs, and not in the domain of psychologist or alienist. The treatment and general management of the patient is gone into with great detail, and the author endeavors to give the rationale of every procedure, of every method advised by him. It is a useful and suggestive volume. (Félix Alcan, Paris. Cloth; 294 pages. Price, 4 francs.)

### Publications Received

Warwick of the Knobs. A Story of Stringtown County, Kentucky. By John Uri Lloyd.

A. Manual of Bacteriology. By Herbert U. Williams, M.D.

Stimulants in Forensic Medicine, A Review of Drug Consumption in Vermont. By Dr. A. P. Grinnell, M.D. Reprint from the "Medico-Legal Journal," September, 1901.

A Simple and Accurate Method of Substitute Infant Feeding. By Henry Dwight Chapin, M.D. Reprinted from the "New York Medical Journal," Feb. 23, 1901.

Infantile Typhoid Fever. By August Adrian Strasser, M.D. Reprinted from the "Medical Record," August 24, 1901.

Practical Food Prescribing. By Floyd M. Crandall, M.D. Reprinted from the "Medical News," May 11, 1901.

A Case Resembling Morbus Cæruleus, Probably Due to a Dusting Powder Containing Acetanilid. By Samuel E. Earp, M.S., M.D. Reprinted from "Pediatrics," xi., No. 3.

Price List of U. S. Public Documents.

A Correlation of One Hundred Successive Mastoid Operations. By Edwin W. Pyle, M.D. Reprinted from the "Archives of Otolaryngology," xxx., No. 3.

Würzburger Abhandlung aus dem Gesamtgebiet der Praktischen Medizin. I. Band, 11 Heft. Die Behandlung der Empyeme. Von Prof. F. Riedinger. I. Band, 10 Heft. Die Verletzungen des Ohres. Von Prof. W. Kirchner.

Golden Rules of Aural and Nasal Practice. By Philip R. W. de Santi, F.R.C.S. Lond.

Golden Rules of Hygiene. By F. J. Waldo, M.A., M.D.

Die Schwindfucht. Praktische Winke für Gesunde und Kranke. By Dr. Fischer.

Diseases of the Respiratory Organs. By Wm. F. Waugh, A.M., M.D.

Libertinism and Marriage. By Louis Jullien, M.D. Translated by R. B. Douglas.

# MERCK'S ARCHIVES

OF

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### A Field for Therapeutic Investigation

THERE is probably no single class of remedies so extensively used as cathartics. There is certainly none in such general demand for self-medication by the public. Patent-medicine men, observing this fact, have taken advantage of the situation and made it bring many a fortune to them. The number of cathartic pills and potions which they exploit is surprising, and yet it is but a small part of the cathartic remedies which the public buy from their apothecaries. Should an attempt be made to remove this kind of drugs from all drug-stores, the majority of the latter would fare very badly. An actual inspection of the bills of a drug-store, the business of which would average well with others in the same line, revealed the fact that in twelve months about one-eighth of all the money paid for stock was for cathartic remedies in one form or another. When, in connection with this, we consider the fact that in the sale of Rochelle salts, Epsom salts, cream of tartar, magnesia, castor oil, senna, rhubarb, and cathartic pills, we have the bulk of the profit of the business of nearly every drug-store, aside from prescriptions, it becomes evident that the total daily sales must be immense. The highest per cent. of profit realized on the druggist's stock, when prescriptions are excluded, comes from just such articles. The sales are small in amount to each customer, averaging from ten to fifteen cents, but the

majority being five. It is quite likely that from one-third to one-half of all who enter a drug-store to purchase drugs want some form of cathartic remedy. In some regions the single item of citrate of magnesia constitutes from 8 to 10 per cent. of the total sales of the store. We hear much of the morphine habit, the cocaine habit, the liquor habit, etc., but nothing about the cathartics habit. Is it because there is no such habit, or because the evil results to the system of such a habit are so trifling that we may safely ignore them? Very early in life the giving of cathartic remedies begins. Infants are dosed to an extent that is but little realized. In many such cases the cathartic has to be given to overcome the constipating effects of opium in the form of paregoric or soothing syrups that have been given to quiet them. Thus one evil brings on another.

A class of articles that constitutes so important an item of the world's commerce and that has so great an influence on society for good or ill, certainly deserves the most careful scientific study that can be given to it. The whole world has been scoured in order to meet the demand for such goods, and while the favorite source seems to be the vegetable kingdom, the mineral supplies several of the most important. Unless it is ox bile, the animal kingdom has given us none. While botanists have searched for remedies of this kind

in the wilds of Asia, Africa, and America, it is a remarkable fact that our synthetizing chemists have either overlooked the opportunities which this field of research offers, or else they have been exceedingly unfortunate in their labors, since they have given us but one, and that very recently. They deluge the medical profession with analgesics, antipyretics, hypnotics, antiseptics, etc., but seem almost wholly to overlook this far greater—and, one might think, financially more promising—line.

We suppose that some of these days a start will be made in this direction, and then there will be an over-supply, as has been the case with the others. Many attempts have been made by chemists to isolate the active principles of cathartic drugs, but with very unsatisfactory results. A hope was entertained that if the active principles of some of the best vegetable cathartics could be obtained in a pure state it might lead to more satisfactory methods of administration, and to the getting rid of some of the objections that are made against them. This hope has not been realized. No single principle contained within the crude drug seems to be responsible for the desired effect, unless we except elaterin. We know very little about the constitution of these vegetable cathartics, and perhaps less about how they act within the body to bring about their results. Even concerning the way certain of the mineral cathartics act we only have theories. Nowhere else, perhaps, in medical science is there more need for definite scientific knowledge. Such knowledge as we possess is almost purely empiric, having been gathered from watching the effects of different members of the class upon our patients or ourselves. They are being taken constantly by our patients, with and without our consent, even when we are giving other remedies that may contra-indicate their use. How little we know of the gases which they seem to produce or how these may affect the other medicaments. If we are administering iron in some form, and the patient takes Epsom salts, German cathartic salts, or compound licorice powder, what is going to be the effect? If sulphuretted hydrogen is generated in large amount from

any or all of these three, it would seem as if our iron, or at least a part of it, would all be speedily rendered inert. What is the influence upon metabolism of the presence of various kinds of cathartics in the alimentary canal? That some kind of reducing action occurs is evident from the production of sulphides from mineral sulphates. Does this hinder or help in the reduction of the carbohydrates of the food? Does it interfere with the action of the special enzymes from the stomach, pancreas or alimentary tract below these? It is quite certain that cathartics have not the same effect upon the same patient at different times, and it is equally certain that there are very great differences in the way these remedies behave toward different persons who take them. At one time a very small dose will produce unexpectedly heavy results, and at another a large dose will scarcely act at all. One kind is found to agree well with one patient and disagree with another, while another kind that may not at all agree well with a first patient may succeed admirably with a second. Of course this is true of all kinds of remedies, but it seems to be especially well pronounced in the class we are considering, and here, if anywhere, the causes of these variations should be the subject of experimental research. Medicines that can only act after entering the circulation cannot be made the subject of as direct research as those that act in the intestinal tract. Here, then, is a field that is especially worthy of investigation and one that is likely to bring good returns to the investigator for the work he is willing to put into it.

The chemical part of such work would be rather disagreeable, but no more so than upon sludge oil, which laid the foundation for our knowledge of the structure of alkalis. It is work that should be conducted in some large, properly equipped hospital, or in a chemical laboratory near to such hospital. No deviation need be made from the regular line of treatment of the patients, and therefore no objection could be raised against the work by outside parties on the ground that patients were being used for experimental purposes.



[Written for MARCK'S ANNUALS]

**NEURASTHENIC URETHRITIS: ITS PREVENTIVE AND CURATIVE THERAPY**

By J. M. Thompson, M.D., Boston, Mass.

WHEN, not many years ago, one of our most eminent surgeons ventured to declare that urethritis had proved a more formidable disease than syphilis, and should be regarded a more dangerous and deadly foe to the human race, it was hardly to be expected that his student hearers should evince more than wondrous surprise; yet it is quite beyond even the semblance of doubt that he voiced the sentiments of all physicians whose experience and knowledge of the subject would entitle them to speak with authority.

A comparison between urethritis *per se* and syphilis would be unjust as well as odious. But when one reflects upon the many and varied pathological possibilities so peculiar to the local disease—the actual sequelæ and complications in evidence every day, all attributable no less to the indifference and insufficient watchfulness of physicians than to the neglect and indiscretions of patients—is it to be wondered at that syphilis should be regarded with less fear and trembling? Can any one, who is able to read between the lines, fail to appreciate the truth of the following from Doctor Lydston? “Subtract the evil effects of gonorrhea from the list of human ills, and the resulting increase in the longevity and happiness of the race would be something marvelous.”

As the result of four years' previous study and investigation of the pathological source of the nervous and sexual phenomena not infrequently manifested in connection with chronic urethral disease, the writer published in the *Boston Medical and Surgical Journal*, Nov. 1, 1894, a paper on chronic seminal vesiculitis. It was found that, excepting the tubercular, syphilitic, and traumatic forms, chronic inflammation of the vesiculæ seminales was the result of an evolutionary process, so to say, starting originally in the anterior urethra as an acute disease and passing through its successive stages into the posterior urethra, where it becomes chronic. Since that time, an experience of six years in the management of this pathological process has demonstrated the fact that, like chronic seminal vesiculitis, a no less frequent source of the nervous and sexual phenomena mentioned above, is chronic inflammation of the prostate gland. In truth, whenever in the course of chronic posterior urethritis unmistakable evidence of derangement of the nervous

system, together with impaired sexual function obtains, generally it will be found that the inflammatory process involves the prostate as well as the vesicles, while occasionally incipient cases show that the process has not extended to both organs.

In view of the facts just stated, one can readily infer that chronic vesiculitis and chronic prostatitis, as employed, are synonymous with chronic prostatic urethritis and chronic vesicular urethritis respectively; and, inasmuch as the distinguishing or characteristic features of both prostatic and vesicular inflammation is most fitly expressed in the phrase “sexual neurasthenia,” it is hoped that the reader will understand the meaning and significance of the term *neurasthenic* in its present application.

The use of the word *urethritis*, too, in preference to that of *gonorrhea*, finds explanation in the fact that the former is etymologically correct; and, as Lydston says, “sufficiently comprehensive to embrace all the varying forms of the disease whatever their origin.”

The particular phase of chronic urethral infection to which the title “neurasthenic urethritis” is applied (now for the first time, it is believed) and the therapy of which it is the purpose of this paper to consider, finds scanty and unsatisfactory mention in the literature of the genito-urinary tract. The fact is that even specialists did not realize that urethritis could produce impairment of the sexual function, or derangement of the nervous system, until about twenty years ago. But those who have devoted special study to the subject, however, and have had to do with the management of these cases, cannot fail to fear for the future.

The late Doctor Beard, after years of study and investigation on the subject of nervous disease, was quite satisfied that we deserved to be dubbed “a race of neurotics” and that there was more truth than fiction or good taste in the opprobrious remark hurled from across the seas. And when he substituted “neurasthenia” for “American nervousness” his choice of expression was both happy and fitting. Yet with all due respect to the memory of Dr. Beard, to whom we owe, certainly, an irremunerable debt of gratitude for his exemplary and altruistic efforts in our behalf, be it said, that, while he recognized before death the preponderance of the sexual over the other forms of neurasthenia, in point of etiology, he failed signally to appreciate the importance of local among the other causative factors of this particular form of neurasthenia, for he viewed his subject through the



spectacles of the medical man and the medical man alone.

With a subject so extensive, it was enough for one man to deal with the symptomatology of a disease entailing so much study and investigation; and no one who is at all familiar with the work of Dr. Beard will gainsay that he performed yeoman service; and if for no other reason than for the authorship of "sexual neurasthenia" his name should emblazon the pages of medical literature for ages to come. It was left till a later day, however, to discover the direct and indirect causes of sexual neurasthenia and to determine the most efficacious plan to pursue in respect of its treatment.

In this connection no little praise and commendation belong to Ultzmann, Finger, Krafft-Ebing, Fuller, and Vecki; but it is to be regretted that so much discrepancy still obtains among them, each having treated the subject from his own view-point, much to the confusion of the physician who, quite unfamiliar with the disease, wishes to obtain knowledge and information sufficient to enable him to make an intelligent diagnosis and to decide upon a successful plan of therapy.

The reader should bear in mind that sexual neurasthenia is still in its developmental stage and that its champions thus far have treated the subject from the view-point of personal proclivities and experience. Krafft-Ebing and Beard see only a medical side to the therapy of the disease; Fuller tells us that medicinal therapeutics is of little avail, and that a patient who seeks advice for impaired sexual function, whether his nervous system be deranged or not, can be put down as a victim of chronic seminal vesiculitis. Finger, on the other hand, will not be suspected of recognizing the seminal vesicles as a factor till one reaches the end of his work; claiming that whenever, following acute blennorrhœa, the patient manifests symptoms pointing to derangement of the nervous system, and impairment of the sexual sphere, one is likely to find present chronic prostatic urethritis.

The reader knowing the importance of urethritis when once it has extended backward into the deep urethra, will recall what should be stated at the outset as an axiom: When, following an acute inflammation of the anterior urethra, the patient manifests unmistakable signs of more or less impaired sexual vigor, examination will show that the acute anterior has become a chronic posterior process, involving the prostate, or seminal vesicles, or both. It will be asked why nervous and sexual phenomena are more likely to follow when either the seminal vesicles or the prostate are involved rather than

when other parts of the sexual apparatus share in the process? It can be assured the reader, if he would feel certain of knowing how to prescribe intelligently in one of these cases, he should not only answer this question for himself, but should thoroughly understand the physiology and anatomy of these organs in every detail. *En passant*, it will be sufficient to state that the secretion of semen, the action of the *vasa deferentia* and of the seminal vesicles are under the direct control of the spinal cord. Furthermore, the vesicles and prostate are enervated by the same plexus, namely—the plexus vesicalis. The prostate is abundantly supplied with nerves and, as in the case of its analogue, the uterus, it can be seen at a glance that the peripheral termini are kept in a state of ceaseless agitation whenever a chronic inflammatory process is seated in this gland. The relatively large size of the prostate in comparison with other parts of the male sexual apparatus goes to show that this gland, when the seat of a pathological process, determines the nervous phenomena to a greater extent than the vesicles.

In the arrangement of the different parts of the sexual apparatus the utmost nicety and precision of mechanism are observable, thus permitting one to draw valuable inferences. For instance, Nature placed the seminal vesicles and testicles behind the *ductus ejaculatorius*, so that the principal constituents of the semen might be united at the time ejaculation takes place, while the accessory glands (prostate, Cowper's, Littre's, etc.), one will observe, are situated in front of the *ductus ejaculatorius*, in virtue of which there is good ground to infer that these glands are not supposed to furnish any essential constituents of the semen; it is likely that their true function is to dilute the semen, or rather to lubricate the urethra and to pave the way for the reception of the seminal fluid.

The first essential *desideratum* is to prevent extension of the acute anterior urethral process into the posterior, or deep urethra. This, in truth, forms the *sine qua non* of successful therapy.

When one takes into consideration that extension is more likely to occur the nearer the inflammatory process reaches the compressor urethræ muscle, it follows that every effort should be made and precaution taken to keep the disease away from that muscle. In the great majority of cases, barring conditions that favor extension, the acute process will reach the vicinity of the compressor urethræ about the end of the third week, when statistics prove complications are most common; on the other hand, in

many cases, the third week witnesses the disappearance of acute symptoms, while in some the disease will appear to be almost terminated. At this time patients are less apprehensive, and, in the hope of soon being entirely free from the disease, are most wont to be careless and forgetful of treatment. But too much emphasis cannot be put upon the necessity of a guarded prognosis and of scrupulously watchful and circumspect treatment at this juncture. Although it is likely that all symptoms may have disappeared at this stage, except a slight discharge, occurring, possibly, only in the morning, yet that discharge still contains pus, in which all the danger lies, and being freer and less adhesive flows in either direction more easily than during the acute stage. It is a good plan to enter into an explanation of these facts to the patient, who, in consequence, will strive to avoid the possible dangers, when once he is taught to appreciate their source.

The first and most important factor in favoring the extension of an inflammatory process to the pars posterior, through the direct agency of the compressor urethræ, is (a) *erection*, which is prone to occur frequently and unexpectedly at any time during the existence of the acute disease; (b) the next most likely means of favoring extension is in the use of the *regulation piston syringe* (2 to 4 dr. capacity), which, in the hands of the majority of patients, is productive of more harm than good. Mark its use as recommended in one of the recent works on venereal disease: "With the tip of the syringe pressing into the meatus with just sufficient firmness to prevent leakage, the fluid is slowly and steadily forced in until a slight ballooning or a feeling of fulness and tension in the urethra informs the patient that the urethra will hold no more. As the syringe is withdrawn the lips of the meatus are gently held together, retaining the medicament in the urethra for about a minute before allowing it to escape."

Is it not reasonable to suppose that retaining the medicament in the urethra for about a minute is sufficient to dislodge a clump of pus adherent to the membrane before injection, and to send it floating back to the compressor, where it will either take root and propagate its kind, or be insidiously entrapped into the posterior urethra?

Other factors that favor extension are such devices as covering the glans with cotton, material which practically occludes the meatus, the only free exit for the escape of pus; carrying the penis in an upright direction, unmindful of the fact that pus, no more than water, will not run up hill;

so-called medicated bougies, even more than the cotton, by preventing free escape, force the pus backward. The reader will observe that the above-mentioned factors, instead of being therapeutic adjuvants, all favor extension of the disease.

Let us turn our attention to considering the best and surest means of antagonizing these forces.

#### PREVENTIVE THERAPY

*General Therapy.*—The most important principle to maintain from the very start is physical rest and the constant suppression of sexual ardor. While in this country it is rarely that a patient is found who will allow himself complete bodily rest—and more likely because he labors under the fatuous notion that it is not absolutely essential, rather than because it is not a custom—still, upon serious reflection, it will appear beyond a doubt that the maintenance of physical rest during the acute stage, at least, would tend not only to prevent complications, but also to diminish the duration and severity of the disease itself.

Advantageous, however, as freedom from bodily exercise may appear to be, it is scarcely more essential than sexual rest. From personal experience and observation the writer is quite satisfied that the maintenance of a relaxed sexual apparatus—in fact, the suppression of the sexual in thought, word, and deed—is and must be regarded as extremely important.

Next to rest is restricted diet, not only because it is a material adjuvant in suppressing sexual ardor, but also since the simpler the diet the less the urine is likely to contain irritating products. This recalls another factor of the utmost significance—the secretion of a bland non-irritating urine, the character of which is determined by the form of food and drink used. All kinds of malt and spirituous liquors must be prohibited, and nothing allowed but milk, tea, and water. Included in the list of eschewed articles should be mentioned liquid malt extracts, fruit and confections to which brandy has been added.

Some physicians recommend their patients to drink freely of alkaline mineral waters, both to dilute and to increase the bulk of the urine. Such a practice it is safer to prohibit, for, while it is likely to prove beneficial at the start, it is more likely to prove detrimental later on, when acidity will be a most desirable property to find in the urine. Pure spring water is safer and will answer all indications for dilution and diuresis. A precaution seldom mentioned but necessary to observe here, however, is to ab-

stain from all forms of liquid an hour or two, at least, before going to bed, to prevent too early filling of the bladder before awaking next morning—a condition that would give rise to reflex erection.

Cleanliness and hygiene must be observed, especially by patients who have a long prepuce. After a thorough bathing as many times during the day as is deemed necessary, a thin, teased-out strip of absorbent cotton, or, better, borated gauze, should be placed underneath and back of the meatus to catch all superfluous discharge, and thus prevent balanitis and the other allied complications. In protecting one's linen and underwear, a simple device to cover the penis is all that is required. Avoid heavy and tight wrapping at all times and insist on frequent changes, to guard against auto-inoculation.

Too much stress cannot be laid on the inestimable benefits and immediate comfort to be experienced from the bath, and the hot sitz is *facile princeps*. The patient who is provided with the necessary means of taking the sitz bath need not be told of the salutary effect to be derived from it night and morning, in the event that he is enjoying bodily rest. It would not be possible to mention a measure so easily carried out and so productive of inflammatory resolution. When a patient cannot obtain the hot sitz, other means of securing the effect consistent with the patient's condition and the circumstances of the case should be employed. While the use of tobacco does not figure materially in the majority of lesions common to the sexual organs, there is no doubt that a patient should be advised to guard against the use of the narcotic whenever it proves to be irritating to the nervous system. The same advice applies to tea and coffee, which act as excitants to the nerves at times.

*Internal Therapy.*—Patients are wont to place implicit faith in this form of treatment, and hence little difficulty will be found in maintaining a rigid enforcement of the physician's orders. The patient's promises and resolutions to keep his sexual ardor in subjection should count for naught, since the sexual instinct is not always under control. It will be necessary to resort to medicinal assistance, and the dose of the drug employed should be determined by the effect produced, bearing in mind the significance of toleration and of idiosyncrasy. It is not enough to depend on light diet, regularity of the bowels, ventilation of the sleeping room, and the character of the bed clothing; one should take the precautions necessary to keep the patient from sleeping on his back, in order to lessen congestion of the genitals.

A simple device is to tie a towel about the waist with a tough hard knot resting on the spine. However, oftentimes it will be necessary at bedtime to prescribe sodium or potassium bromide, 20 to 60 grn.; or camphor, hyoscyamus, valerian, belladonna, lupulin, etc.

A pill composed of camphor and extract of valerian, 1 grn. of each, with extract of hyoscyamus,  $\frac{1}{4}$  grn. to  $\frac{1}{2}$  grn., will serve as an efficient anti-spasmodic where there is marked vesical irritability and urgent micturition. Tincture of hyoscyamus and belladonna, 10 drops of each, cannot fail to assist materially; also, fluid extract of cannabis indica and of pichi in the same dose will be found valuable. Should none of these meet the requirements, recourse must be had to opiates, which, while they produce a disagreeable after-effect and disturb the functions of the other organs, are justifiable, inasmuch as it will not be necessary to use them longer than a week. Preference should be given to medication in suppository—powdered opium,  $\frac{1}{2}$  to 1 grn., with extract of belladonna,  $\frac{1}{4}$  grn., being an ideal one. To keep in abeyance every possible source of nervous and sexual excitement, especially to subdue erection, must be regarded as a *desideratum summum*.

In this connection the author wishes to give his experience with a drug which has proved a most remarkable genito-urinary sedative. This drug is dionin, or ethyl-morphine hydrochlorate. The dose is about one-third larger than that of morphine ( $\frac{1}{4}$  to  $\frac{1}{2}$  grn., to be repeated; or  $\frac{1}{2}$  to 1 grn. at bedtime), and may be administered by mouth, hypodermatically, or in suppository. During the first and declining stages of acute urethritis, where the writer employed it, dionin produced the desired sedative and analgesic effects in every case, without causing any of the unpleasant by-effects following morphine, the bromides, and coal-tar derivatives—by-effects such as nausea, vomiting, constipation, and general locking-up of the secretions. Drs. Schröder, Winternitz, Heinrich, Bloch, Fromme, and others, claim that no habit is likely to be established from its use.

The writer observed only a negative effect on the respiration and heart, while on the mucous membrane of the genito-urinary tract the effect was beneficial—the dysuria and scanty urine following morphine and codeine were noticeably absent.

Dionin, then, in virtue of its many valuable positive properties, and freedom from all significant by-effects, is entitled to a place among the indispensables of the genito-urinary surgeon.

The resinous oils and balsamic preparations are admitted to be the most reliable drugs in the treatment of acute urethritis thus far discovered; but, in view of the irritation and disturbance which these not infrequently produce, one should be cautious and circumspect in prescribing them, particularly in point of their effect on the stomach and kidneys.

The principal ones in use are sandal-wood oil, cubeba, and copaiba. Many praise copaiba as possessing peculiar and unique virtues in the early stage; but, in the hands of the writer, whatever superiority over sandal oil this drug appears to have has been offset invariably by digestive disturbance, or renal and skin irritation. Such experience forced him to discard copaiba in favor of the sandal-wood oil, which, when of the best quality, may be relied upon to do more towards cutting short the disease and mitigating the severity than any other drug available. It can be administered in capsules, plain or with 1 or 2 drops of the oil of wintergreen or cinnamon, preferably an hour after meals, with a copious draught of water as a precaution against gastric and renal disturbance. It is after the very acute stage that the indications call for the resinous preparations, and when experience shows that they produce the most telling effect. At least 10 minims should be given after meals and at bedtime, and, when the patient is able to tolerate it with impunity, an extra dose may be given during the morning and afternoon. The larger the dose the better the result, as a rule. A capsule that will be found a most reliable and efficient adjuvant during the first stage is the "compound salol," after the formula of Dr. White. This has proved less irritating than any. Its formula is: Salol,  $3\frac{1}{2}$  grn.; oleoresin cubeb, 5 min.; para balsam of copaiba, 10 min.; pure pepsin, 1 grn. One such capsule may be given after each meal and at bedtime during the height of the inflammation.

Whenever a patient cannot tolerate the resinous oils in any form without suffering from severe gastric or renal disturbance, or possibly from irritable urticaria, *terebene* (obtained by the action of sulphuric acid on oil of turpentine) may be given in 5- to 10-drop doses on sugar or in capsules, three or four times a day. Antiseptic, astringent, anti-fermentative, it will prove an efficient substitute for sandal oil and copaiba, and since it is non-toxic and produces no irritating effect, it is likely some day to occupy the place now held by copaiba and sandal oil in the therapeutics of genito-urinary disease.

Some physicians recommend simply alkaline medication during the first stage, but the writer is satisfied that it is far more important to keep the urine sterile than alkaline; and that with a neutral, or even slightly acid urine, provided some drug be employed as a reliable sterilizer, it is time and trouble saved to administer the capsule, or resinous-oil, treatment from the start.

During the acute stage especially, the patient should be seen at least every other day, and at each visit careful examination of the urine be made, if only to serve as the one infallible proof of his condition. What is more, he should be asked to call at different times during the day: one visit in the morning, one at night, one at noonday, since the urine is likely to vary considerably during the twenty-four hours. The two-and-three glass tests should be made as a matter of routine, inasmuch as extension may take place in the absence of subjective symptoms. To keep the urine sterile, as well as to preserve its normal acidity, the patient should take some such drug as salol, salicylic acid, sodium benzoate, boric acid, oil of wintergreen, or urotropin (hexamethylene-tetramine). The writer's personal preference is for the last named, on account of its thoroughly reliable and non-toxic action. Furthermore, it possesses the virtues of the other urinary sterilizers without containing any of their toxic properties. Seven and one-half grains, in compressed tablet form, night and morning, will meet, invariably, all requirements, and prevent the formation of certain sources of irritation commonly found in the urine and not rarely provocative of extension.

There remains to be considered *local therapy*. Of late, there has been no little amount of objection brought forward regarding the advisability of using injections at all, but it is plainly evident that the prejudice against the injection method took rise among the laity, encouraged by certain physicians who make it a point not to antagonize their patients. The writer is by no means an ardent champion of injection, as ordinarily practised. Except during the declining stage of acute urethritis, when the mucous membrane is found to be sluggish, yet moist, it is seldom that injections, so-called, are of much benefit.

The local therapy which the writer would offer as a substitute for injections he believes firmly is a decided adjuvant to the *general* and *internal* methods which precede. It entails no risk to the patient, and, while it does not purport to cut short the anterior urethral process, it is a very important prophylactic factor.

If considered from the practical side, injections as given by the ordinary piston syringe accomplish little—in fact, oftentimes they prove injurious. Free irrigation is decidedly preferable, for the urethra is thoroughly bathed only when provision is made for a return current. The writer has employed for some time a “flexible rubber syringe” with large compressible bulb, which can be filled and emptied perfectly with the thumb, the index, and the middle fingers—a feature that lends material advantage, for the fingers of the other hand may be used in constricting the urethra near the compressor muscle, while the injecting current is passing in and out of the urethra.

Is there any tenable reason why the physician should cling to the old method in the case of the urethra, where it is impossible to retain the prescribed “one to two teaspoonfuls” of some murky mixture, sure to escape when the nozzle is withdrawn? By employing the flexible bulb syringe, 2 or more ounces of solution may be passed into the urethra without entailing the least trouble. One may start with potassium permanganate in the strength of 1:5000, and gradually increase the strength as desired. Corrosive sublimate can be used 1:30,000, and increased in the same way. Solutions of carbolic acid, boric acid, zinc sulphocarbolate, and others, as found desirable, may be used. It is recommended that the patient always begin with a weak solution, and preferably during the stage of decline. The bulb syringe offers an advantage also in enabling one to use hot water during the acute stage. The specific features of this method are: (1) Large quantities of a weak solution; (2) thorough flushing out of all material collected in the urethra; (3) freedom from danger, which inspires the patient with confidence; (4) ease in using it—a feature that cannot be said of the piston syringe, which few patients know how to manipulate properly enough to derive benefit from its use.

A word should be said in regard to the suspensory bandage, which will be found comforting and beneficial. In patients with a long pendulous scrotum, especially, it will support and elevate the scrotum and its contents, thus relieving the tension on the spermatic cord, a symptom productive of discomfort and possibly conducive to epididymitis.

By no means wrap the penis in any covering nor apply cotton to the glans, except where the prepuce is redundant. Always observe carefully the anatomy of the penis, with a view to preventing balanitis, balanoposthitis, phimosis, and paraphimosis, and

those complications that favor extension, arising from retention of the pus, often due to contracted meatus and redundant prepuce. The patient should be scrupulously particular in regard to cleanliness, and should avoid the dangers of tight-fitting garments. In this connection the writer is reminded of a very severe periurethral phlegmon, accompanying acute anterior urethritis, caused by keeping the penis in a vertical position, to avoid the distress of which some patients complained in the days of snug-fitting trousers.

In using the irrigation injections one may follow the rule that governs the administration of the resinous oils. They are more properly indicated and prove more efficient as the declining stage advances—that is, when the discharge is freer and less purulent. Always begin with a weak solution—1:5000 potassium permanganate—and, so long as results are satisfactory, do not increase the strength, which should be such as to allow one to inject freely after each micturition.

Without entering into a recapitulation of the preventive therapy, it will not be amiss to select what may be regarded as the indispensables:

(1) The *bromides* (potassium or sodium) to control erection. Dose: 10 to 60 grn., as required.

(2) *Dionin*; suitable in every case, to control erection. A reliable nervous sedative and analgesic—no by-effects. Dose:  $\frac{1}{4}$  to  $\frac{1}{2}$  grn. for several doses; or, in single doses,  $\frac{1}{2}$  to 1 grn. at bedtime. Likely to prove specific.

(3) *Urotropin*, or *formin*, to sterilize and preserve the acidity of the urine. Dose:  $\frac{7}{8}$  grn. night and morning.

(4) *Extract pichi fluid*, alone, or with tincture of hyoscyamus, to allay vesical irritability, tenesmus, and urgency. Dose: 10 to 30 drops three or four times a day.

(5) *Oil of sandalwood*, the most reliable and efficient agent in relieving the discharge. Diuretic and genito-urinary stimulant. It exerts a peculiar and stimulating influence on the urethral mucous membrane. Dose: 10 min. (in capsule) three to six times a day.

(6) *Potassium permanganate* (in solution 1:5000 to 1:1000); a powerful oxidizing agent, antiseptic, and astringent, useful in copious irrigation during declining stage.

(7) *Terebene*, to replace sandalwood oil and copaiba, whenever the patient betrays unmistakable signs of intolerance for the last two. Dose: 5 to 15 drops, three to five times per day.

[TO BE CONTINUED]

[Contributed to MERCK'S ARCHIVES]

**STYPTICIN IN UTERINE HEMORRHAGE<sup>1</sup>**

By H. J. Boldt, M.D., of New York

So frequently have I been asked in consultation practice, What is stypticin? when commending its employment for the control of uterine bleeding, that I have again chosen it as the subject of a short paper. For clinical histories of instances in which it was used I refer to an article by me that appeared in the *Medical News* of April 8, 1899. In that paper the results of other observers are recorded.

The technical name of the drug is cotarine hydrochlorate, but its discoverer, Prof. Martin Freund, termed it stypticin on account of its hemostatic properties. Cotarine is a fractionation product by oxidation from narcotine, an alkaloid obtained from opium. The hydrochlorate (stypticin) occurs usually as a minutely crystallized yellow powder, having an intensely bitter taste. It is soluble in water, the solution becoming darker on exposure to light. Its physiological action was established by Edmund Falk,<sup>2</sup> of the Pharmacological Institute of Berlin.

My clinical experience with stypticin is quite extensive, and satisfactory in most instances, when employed in properly selected cases.

Since the publication of the paper alluded to, the remedy has been tried on a number of additional patients, under various conditions, and I shall cite these as illustrations in which good results may be expected from the administration of the drug.

Not infrequently virgins without any detectable pathologic changes in the pelvic organs are subject to profuse and irregular menstruation, sometimes to such an extent that they are anemic and quite weak. When irregularity and profuseness are associated, the drug should be taken continuously for three or four months, in doses of 0.05 Gm. ( $\frac{3}{4}$  grn.) three times daily, except during menstruation, when the dose should be taken at intervals of two or three hours until the flow is diminished. The longer intervals of administration may then be resumed. Even in a few instances, when dysmenorrhea existed, this drug was said to have alleviated the pain. This was, however, not the rule; on the contrary, generally no effect was observed on that symptom.

When only profuse menstruation is present, the periods being regular, the administration of stypticin should be commenced

four days before the expected flow, the same dose at the same intervals being given as in the other condition.

Again, pelvic inflammation after full-term delivery is occasionally accompanied by bleeding from the genital tract. A few days under stypticin treatment will very likely bring about relief.

There are instances of atypical bleeding after confinement, caused by retention of the decidua or particles of retained placenta, in which, although these have been removed, the bleeding does not cease; here, too, the remedy under consideration has an excellent effect, but of course no benefit can be looked for until such remnants have been removed.

It is not uncommon to see women with atypical bleeding during the climacteric period for which no pathologic condition can be found. Most remarkable successes have been observed from the administration of a few large doses of the drug. Should bleeding recur, stypticin should again be ordered.

When the bleeding is caused by inflammation of the uterine mucosa, either alone or associated with chronic metritis, the treatment with this—or, for that matter, any other drug taken internally—has proved unsatisfactory in my hands. The statement holds good when a retroflexion or version accompanies the endometritis. In such cases local treatment, under which curetting might be included, should be resorted to. If that does not effect a cure, then stypticin may act beneficially.

While stypticin has been found to act with benefit in some cases of endometritis, it is useless in endometritis fungosa.

Occasionally patients are seen who have irregular uterine hemorrhage, whose cause cannot be found. In but one such instance have I seen a satisfactory result follow the use of this drug.

Pelvic exudates are sometimes caused by traumatism, if an infection takes place when the traumatism is inflicted; for instance, the introduction of a sound into the uterus without antiseptic precaution or dilatation of the cervical canal. As the result of the para- or perimetritic exudate, bleeding from the genital tract is not an unusual occurrence. I have seen persistent hemorrhage for from four to six weeks as a result of such conditions. Although stypticin does not give quite as satisfactory results in this class of cases, yet it has proved more efficacious than other drugs. The bleeding began to diminish on the second day, and continued to be slight, if not entirely.

<sup>1</sup>Read by invitation before the Eastern Medical Society.<sup>2</sup>*Therap. Monatsh.*, x, No. 1.

Atypical bleeding, sometimes associated with subinvolution of the uterus *post-puerperium*, yields with remarkable quickness to the use of stypticin.

In a few instances bleeding during pregnancy has been arrested by the administration of stypticin; in no case was uterine contraction produced by its employment.

Numerous good results have been reported from the use of stypticin in the controlling of hemorrhage caused by fibromyomatous tumors. My own observations do not impress me favorably with its use in these, nor in malignant neoplasms of the uterus giving rise to hemorrhage.

If a quick action from the drug is wanted, it is best to use the remedy subcutaneously. With antiseptic precautions, 2 to 3 grn. dissolved in sterile water should be injected into the buttocks and repeated after four to six hours. Two to three injections usually suffice to obtain the desired result, after which the remedy may be given by the mouth, either in capsules or in tablets. I have mentioned 2 or 3 grn. as the dose, but 5 grn. have often been injected by me without producing the slightest untoward symptom.

[Written for MERCK'S ARCHIVES]

## AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Bjorkman, A.M., M.D.,

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(Continued from page 389, October issue)

ANGINA PHELEGMONOSA.—See Peritonissillar Abscess (Quinoy).

ANGINA TONSILLARIS.—See Tonsillitis.

ANGIOMA (Telangiectasis).—A tumor consisting of dilated blood-vessels. Extirpation with scalpel or electrocautery, acupuncture, ligature or by inoculation of vaccine. If the angioma is superficial, following plaster may be applied.

(121) Antim. et Potass. Tart.....1. (15 grn.)  
Empl. Resinæ.....9. (2 1/2 dr.)

Apply on a piece of linen or leather and leave on the spot for a week.

(122) Acidi Trichloracet. Liquef.....4. (1 dr.)  
Dr. ad vitrum epistomio vitreo clausum.  
Apply carefully with a small glass rod.

In tumor cavernosus injections of hydrogen peroxide are recommended.

ANOREXIA (loss of appetite).—Anorexia, is a symptom accompanying most of the acute and many of the chronic diseases. In many instances it depends simply on a general disturbance: catarrh, ulcer or cancer of the stomach. It is, therefore, a common symptom, and

visible to restore the appetite until the stomach is in a condition to perform its mechanical and chemical duties. Here the sound judgment of the physician often is put on trial. If constitutional disturbances cause a loss of appetite, the system should be strengthened by general and proper tonics; exercise, scientific massage or gymnastics are advised, and patient should be placed under the very best hygienic conditions.

In nervous anorexia of hysterical patients, suggestive therapeutics and a determined handling of the patient (forcing, if necessary) often lead to fine results. If the anorexia is so pronounced and of so long duration that inanition is threatening, nourishment should be given continually per rectum.

(123) Troch. Orexini, aa.....0.25 (4 grn.)  
Tales dos. No. xx.  
One tablet twice a day.

For anorexia of tuberculosis, chlorosis, and cardiac diseases. Contra-indicated in hyperacidity of the stomach and particularly in *ulcus rotundum*.

(124) Acidi Nitro-hydrochlor. Diluti.....15. (4 dr.)

Ten to twenty drops well diluted in syrup or demulcent vehicles. (Indicated after acute diseases.)

(125) Quininae Sulph.....0.06 (1 grn.)  
Extr. Nuc. Vom.....0.02 (1/2 grn.)  
Pulv. Rad. Rhei.....0.5 (8 grn.)  
Dr. tal. dos. No. x.

One powder in a wafer, twice a day (morning and afternoon.)

(126) Troch. Protonucleini No. xxx.

Two to four tablets every three hours. (The tablets may be dissolved in a little milk.)

(127) Corticis Calisayæ Contusi...10. (2 1/2 dr.)  
Corticis Aurantii Cont.....5. (75 grn.)  
Corticis Cinnamomi.....1. (15 grn.)  
Vini Generosi Albi.....1000. (1 qt.)

Stent in loco tepido in vaso bene clauso per horas xii sæpius agitando. Deinde cola et filtra. Small wineglassful twice a day.

(128) Ligni Quassia.....8. (2 dr.)  
Vini Rhenani Opt.....240. (8 oz.)  
Macera et filtra.

Small wineglassful three times a day (after malaria and alcoholismus).

(129) Quassini Pur. (Merck)...0.005 (1/10 grn.)  
Pulv. Nuc. Vom.....0.05 (1/2 grn.)  
Extr. Trifol. Fibrin. Sicc.....0.12 (2 grn.)  
Papaini.....0.15 (2 1/2 grn.)  
Taka-Diastase.....0.2 (3 grn.)

Dr. ad capsulas tal. dos. No. xii.  
One capsule three times a day. (After malaria.)

ANTHRAX.—The anthrax pustule is to be considered as a factory from which bacilli are spread into the system. The pustule should therefore be radically extirpated as soon as possible, preferably by the Paquelin cautery. The thermo-cauterized surface

should subsequently be thoroughly touched up with nitric acid. In most cases this exterminates the evil, the phagocytotic processes generally being able to rid the blood and tissues from bacilli and spores. Infiltration of tissues, surrounding the affected part, with mercury bichloride 1:1000, or carbolic-acid solution, 3 to 5 per cent., has repeatedly given very good results. Ipecac locally in powder, and internally in 0.3 (5-grn.) doses every four hours is claimed to be of specific action. Also, carbolic acid internally has given good results.

- (130) Acidi Carbolici.....5. (75 grn.)  
 Extr. Glycyrrhiz,  
 Pulv. Glycyrrhiz., q. s. ut f. pil. No. L.  
 Two pills five times a day.

After using the thermo-cautery thoroughly and nitric acid, the cauterized place may be irrigated or packed with one of the following remedies:

- (131) Calcis Chlorinatæ..... 15. (½ oz.)  
 Aquæ Dest.....500. (1 pint)  
 Shake well and filter.  
 Use on the bandage.
- (132) Potassii Permanganat..... 10. (2½ dr.)  
 Aquæ Dest.....180. (6 oz.)  
 Use on compresses.
- (133) Argenti Citratis..... 1. (15 grn.)  
 Aquæ Dest.....4000. (4 quarts)  
 Dr. ad vitrum nigrum.  
 For irrigation.
- (134) Nucleini (Vaughan).....0.15 (2½ grn.)  
 Dr. ad caps. tal. dos. No. xx.  
 One capsule between meals and at bedtime.

**APHTHÆ, or STOMATITIS APHTHOSA (Cancre).**—The mouth should be thoroughly cleansed, without irritating the ulcerated places. If the ulcers are small and circumscribed, it might be sufficient to touch them with silver nitrate in substance (caustic pencil). If large, the ulcerations should be treated by irrigation or frequently repeated mouth-washes.

- (135) Sodii Boratis..... 5. (75 grn.)  
 Glycerini..... 25. (6 dr.)  
 Aquæ Dest., ad.....180. (6 oz.)  
 Cleanse the mouth with this several times a day.
- (136) Sodii Boratis..... 6. (1½ dr.)  
 Mellis Rosæ.....30. (1 oz.)  
 Apply with a brush.
- (137) Sodii Boratis..... 6. (1 dr.)  
 Aquæ Rosæ.....25. (6 dr.)  
 Mellis Rosæ.....40. (10 dr.)  
 Træ. Myrrhæ, ad.....90. (3 oz.)  
 Apply to the sore spots.
- (138) Sodii Salicyl..... 2. (30 grn.)  
 Aquæ Dest.,  
 Syrupi Rubi Idæi, aa.....90. (3 oz.)  
 Use as a mouth-cleanser several times a day.
- (139) Potassii Chloratis..... 6. (1½ dr.)  
 Glycerini..... 25. (6 dr.)  
 Aquæ Dest., ad.....180. (6 oz.)  
 Use as a mouth-wash.

- (140) Acidi Borici,  
 Potassii Chloratis, aa..... 1.5 (23 grn.)  
 Succ Limonis,  
 Syr. Rubi Idæi, aa.....15. (½ oz.)  
 Apply with a small brush frequently. (Particularly in phthical stomatitis.)

- (141) Thymolis Puri..... 0.5 (8 grn.)  
 Spiritus..... 5. (75 grn.)  
 Glycerini.....10. (2½ dr.)  
 To be diluted with a teacupful of warm water and the whole used for cleaning the mouth.

Internally:

- (142) Potassii Chloratis..... 2. (30 grn.)  
 Syrupi Rubi Idæi.....30. (1 oz.)  
 Aquæ Dest., ad.....90. (3 oz.)  
 Teaspoonful every two hours. (Children's stomatitis.)

**APOPLEXIA.**—See *Hæmorrhagia Cerebri*.

**APPENDICITIS** (infection of the processus vermiformis, involving the peri-appendicular tissues; generally caused by strepto- and staphylococci, or bact. coli commune).—No other class of cases has to be watched so closely from the very beginning as appendicitis. Symptoms may in less than an hour become so threatening as to make operative interference imperative. It is always wise to consult a surgeon at once if case is alarming. Symptoms of alarm in a case of otherwise benign nature: (1) If the pulse should begin to come near 120 a minute, or (2) if the symptoms during the first twenty-four hours, instead of decreasing, show a constant increase or a sudden turn to the worse. If the symptoms are fulminating from the start, the case should *always* be considered more proper for surgical than medical attendance. A delay will generally rob the patient of many chances of recovery; an operation after long hesitation may, indeed, be of no benefit whatever. The golden rule adopted by many prominent operators of the United States and Europe is to resort to surgery after twenty-four hours from the onset, if symptoms show no signs of decrease. If symptoms from the start are threatening, then operate at once without hesitation! Some prominent surgeons claim that every case, promising or not, should be operated upon at the earliest possible moment; but this is certainly to go too far, because many a mild case of true appendicitis will recover sooner and safer with a good medical treatment, and will be beyond danger sooner than after the knife. An operation (extirpation of the appendix) between acute attacks is, however, always proper, and the records show an absolutely favorable prognosis.

Medical treatment of appendicitis is indicated only when signs of abscess-formation are totally absent and the general symptoms are mild, with pulse below or





vomited at frequent intervals. The stools were of clay color, and there was pain and tenderness in the right hypochondriac region. She was placed upon a suitable diet, Apenta water was employed to open the bowels twice daily, and the following medicines prescribed:

Thiocol.....	2	dr.
Cinnamon Water.....	3	oz.
Teaspoonful t. i. d.		

Pancreatic Essence..... 6 oz.  
Two teaspoonfuls, with a pinch of sodium bicarbonate, in water, two or three hours after eating.

Improvement was at once manifest and the patient apparently entirely recovered in a few weeks. Previously she had used salines, alkalines, sodium phosphate, and observed strict diet, etc., with indifferent result.

In typhoid fever thiocol is an ideal intestinal antiseptic, and tends to diminish the bronchial complications. In all cases it may be prescribed in cinnamon water or essence of pepsin, 5 grn. to each fluid dram. Dose: 1 teaspoonful three times a day; two or three hours after meals if it be desired to act on the intestinal mucous membrane. The average teaspoon will be found to hold  $1\frac{1}{2}$  fl. dr., thus making the dose of thiocol  $7\frac{1}{2}$  grn. According to my experience if this dose does not benefit, higher dosage will do no better.

#### DIONIN

In point of therapeutic power, dionin must be placed intermediate between morphine and codeine. It is about one-half as powerful as the former, and twice as much so as the latter. As an analgesic in gynecological pains, I have found it very efficient given in  $\frac{1}{4}$ -grn. doses. In other conditions involving pain it will be found far inferior to morphine. It may be safely given, however, where morphine is contra-indicated. Dionin does not constipate and produces none of the unpleasant by-effects of morphine. It is, in my experience, superior to morphine, codeine, or heroin for use in expectorant mixtures.

In a desperate case of typhoid fever, complicated with pneumonia, in a young lady patient of mine, I used dionin in  $\frac{1}{4}$ -grn. doses once an hour, to combat an exceedingly active delirium. She was screaming incessantly, and it required the combined efforts of two persons to keep her in bed. After the second dose of dionin had been given, she became quiet and slept. In her case there was no diarrhea at any period of the disease. When she awoke a few hours later she voluntarily passed urine, and

afterwards the bowels responded as usual to a suds enema. She made a complete recovery.

One thing is certain: dionin *does not lock up the secretions*—a very important consideration.

The following prescription I use a great deal as a sedative and carminative:

Dionin.....	gr.	iiij
Ol. Cajuput.....	℥	iiij
Ext. Cannab. Ind., fld.,		
Chloroform.....	aa.	℥ xlv
Tr. Galanga, or		
Tr. Zingiberis.....	℥	x
Acid. Hydrocyan. Dil.....	℥	ix
Alcohol, ad.....	℥	ij

Thirty to sixty drops in water.

My mode of prescribing dionin alone is as follows:

Dionin.....	gr.	ii—iv
Ess. Pepsin.....	℥	ij
Teaspoonful per dose.		

### MERCURY—ITS ACTION UPON THE SYSTEM<sup>1</sup>

By William Henry Porter, M.D.

Professor of Medicine, Post-Graduate Medical School and Hospital

To study further so old and frequently used a remedy as mercury might at first seem uncalled for, yet it is quite apparent that in many respects its action is a question of doubt.

To understand the full possibilities of mercury upon the system as a whole, its action upon the liver must be accurately apprehended. This accomplished, it is easy to understand how its action upon the other portions of the body is brought about, as all its actions upon the system are secondary and largely if not wholly dependent upon the changes wrought in the function of the liver, digestion and assimilation, in consequence of the primary action upon the hepatic cellular protoplasm.

Therefore, if we begin our study of the action of the mercurials upon the hepatic function, we find that their action is exercised in three successive characteristically distinctive stages, to wit: as a stimulant, as a so-called cholagogue, or one that greatly augments the secretion of bile, and as a depressant, or one that greatly decreases the flow of bile.

As the mild chloride, proto-chloride or calomel possesses all these qualities to a marked degree, it is perhaps the best example by which to elucidate the complete action of mercury upon the hepatic and digestive functions.

<sup>1</sup> Post-Graduate, XVI, No. 9.

A word may be said at this point regarding the fear that some entertain from the administration of calomel and hydrochloric acid at or nearly the same time, fearing thereby to produce the bichloride and cause intense toxic symptoms. Only recently an instance of this kind was brought to the author's attention.

The history of the case in brief was as follows: Master H., a lad about nine years old, had suffered from an attack of pneumonia, from which he made a fairly good recovery. With the subsidence of the pneumonic inflammation, however, there developed, as frequently happens, in spite of all that can be done therapeutically, a pleuritic inflammation which ran rapidly on into the purulent stage, so that in the course of a week or ten days after recovering from his pneumonia, a fully developed empyema confronted the medical attendant. A surgeon was called, and a small opening made between the ribs, the pus drawn off and a drainage-tube inserted. This decidedly improved the condition, and for a few days there was marked improvement in all the symptoms, but at the end of a week or so the temperature rose, and all the symptoms became more aggravated; the surgeon was again called, and the opening enlarged. This, however, again closed in part, the temperature ran high, with recurring chilly sensations and great nervousness, the bowels constipated. It was at this point that the author's opinion was sought. A careful investigation of the case eliminated any tubercular involvement, and all the aggravated symptoms seemed to be due in part to the absorption of the poorly drained pus cavity, and a decided inaction of all the excretory organs. If in the beginning a rib had been removed and the pus cavity thoroughly cleansed, and the excretory glands kept active thereafter, it is highly probable that the case would not have drifted into the unfavorable condition that it did.

It was at this stage of the case that calomel was suggested with the view of exciting a better glandular action, thus enabling the system to rid itself of the toxic products which were accumulating within the system, both from the pus cavity and from the putrefactive changes in the alimentary canal, as evidenced by an abundance of indican in the urine. The urine also contained an abundant excess of uric acid, but was free from albumin and sugar.

At the time the calomel was given the lad was also taking a few drops of dilute hydrochloric acid. The family became very much exercised because they were told by the attending physician that the adminis-

tration of calomel in conjunction with the acid would give rise to the most intense poisoning. The actual results, however, of giving the two drugs were that the bowels moved freely, glandular action in general was augmented, the temperature fell, all the symptoms improved, and the case thereafter made steady progress for the better.

If we look into this matter of the administration of calomel at the same time that hydrochloric acid is being given, it must be remembered that the stomach is more or less constantly secreting hydrochloric acid, hence it becomes almost impossible to introduce calomel into the gastric cavity without its coming into contact with this acid. The addition of a few more drops of the dilute acid in the form of a therapeutic agent cannot increase to any marked degree the liability for the conversion of the calomel into a bichloride.

While it is a well known fact that calomel can be converted into mercury bichloride, the conditions for this conversion as given in Brand and Taylor's "Medical Chemistry" do not exist in the stomach cavity. The chemical conditions required for this conversion are as follows:

"By hot hydrochloric acid calomel is resolved into mercury and corrosive sublimate; but when boiled in dilute hydrochloric acid, a portion is dissolved without decomposition." The above would indicate that concentrated hydrochloric acid was used, and in the latter the boiling temperature was required, neither of which conditions ever occurs in the human stomach. Therefore, all fear of the conversion of calomel into the bichloride or the development of this poisonous form of mercury seems to be absolutely groundless so far as the chemical facts are concerned. Clinical experience of an abundant character also demonstrates the same fact. It seems unfortunate, therefore, that such false fears should be entertained, because it gives rise to an unnecessary amount of anxiety on the part of the laity. [The theory of the conversion of calomel into corrosive sublimate by hydrochloric acid, administered therapeutically, was exploded long ago, and it is only the therapeutic laggards that are still unaware of the fact.—EDITOR.]

The *massa hydrargyri* or blue mass, and the *hydrargyrum cum creta* or gray powder, act in a manner similar to calomel; but if anything are a little less active.

The corrosive sublimate, or mercury bichloride, has a similar action, but its more irritating properties make it less valuable, or even useless, as a general cathartic principle. Still it can be, and often is, used as

a powerful hepatic stimulant, and as an adjunct to the cholagogue function of calomel is of inestimable value. In fact, we find many instances in which the protoplasm of the hepatic cells has become so sluggish that the insoluble calomel is not sufficiently irritating to excite them into activity. In these cases the addition of the soluble and more active bichloride often works like magic.

The exact *modus operandi* by which mercury in any form produces the wonderful results upon the system that have been attributed to it for ages, has always been more or less in doubt for the lack of a logical chemical and physiological explanation; yet the most skeptical, after watching the effects of a few doses of this drug upon the human system, cannot deny the power and utility of mercury.

Taking the stand, which now appears to be pretty generally accepted [?], that the inorganic compounds are not decomposed within the animal organism, no time need be wasted in speculation regarding the decomposition of any of the mercurials into other compounds.

How, then, shall the action of mercury and its compounds be explained? Calomel, for instance, is almost insoluble; consequently, it in itself is comparatively non-irritating to the intestinal tract. At the same time it is known to be one of the most active cathartic compounds of mercury, in doses that can safely be used—two almost contradictory propositions.

The cholagogue action of calomel cannot be explained by any direct irritating action which it can produce upon the alimentary tract, for we have already found that it is non-irritating to the intestinal mucous membrane, but its cathartic action can be explained through the increased intestinal peristalsis, caused by reflex irritation, due to an increased flow of the bile acids.

This non-irritating character of the calomel upon the mucous membranes is just what gives it its chief power. Passing along down the alimentary tract without producing irritation, it is steadily absorbed into the entero-hepatic circulation and carried up to the liver. At this point of the animal economy, the mercurial appears to act like a foreign body, toxic in nature, and the hepatic cells, by their secretive action and power to guard the system against foreign invasion, pick up the little particles of calomel from the blood, and eject them into the capillary bile ducts. In accomplishing this task, the hepatic cells are called upon to perform more work; and if the amount of calomel passed through the liver is small, its action is simply to stimulate the organ

to a little greater activity. For a time the hepatic cells secrete a little larger quantity of the bile acids and pigments, but no more of the acids than can be readily converted into the salts of the bile acids. Up to this point the calomel has only been stimulating and physiological in its action. If now the calomel is administered in larger quantities—either by the frequently repeated small doses, or in one large dose—the eliminating action of the hepatic gland is greatly augmented. At the same time the protoplasmic elements which constitute the hepatic cells, are stimulated by the passage of this foreign body through their substance, to a more active production and elimination of the bile acids. When sufficient calomel has reached the liver to produce this copious flow of bile acids, the acids are discharged into the capillary bile ducts more rapidly than they can react upon the alkaline phosphates or carbonates to form the normal and neutral bile salts. When this hypersecretion of the bile acids is established, a cholagogue action is developed. This action, however, can only be temporary in character, because the protoplasmic chemical activity of the hepatic cells will in a comparatively short time be exhausted. After this excessive production of the bile acids and their discharge, together with the calomel, there is a period of protoplasmic inactivity, in which the bile-producing function of the liver is held in abeyance. Viewed in this light, calomel and its class of mercurials may be stimulating, cholagogue, and depressing in their action upon the functions of the hepatic gland—one condition following in quick succession after the other.

The rapid intestinal peristalsis and frequent discharges from the bowels are not the direct result of the mercurial action, but a secondary effect, which has been brought on by the irritating properties of the bile acids, so copiously discharged into the intestinal canal as already described. This fact is established by the lack of cathartic action by calomel in cases of occlusion of the common bile duct as demonstrated experimentally by ligating the duct, and clinically where tumors have occluded the duct; and further by the counter test that where bile acids are administered medicinally where the common duct is occluded, a brisk cathartic and cholagogue action is at once established.

The hypersecretion of the bile acids and its consequent effect upon the intestinal tract is not in any sense a physiological action, but is a strictly pathological process. But by developing this abnormal condition in the functional activity of the hepatic

gland, the liver cells are stimulated to perform an abnormal amount of work, often reaching a stage that may be called vicarious in its nature, and by which the hepatic cells are empowered to expel many abnormal and by-products from the system—a task which in their normal condition they are absolutely unable to perform. In this manner nature rids herself and the whole system of many foreign and offending substances which, if allowed to remain and multiply within the system, would, in a very short time, destroy the animal vitality—a result too often seen in cases improperly treated.

It is by this same irritating and stimulating effect upon the hepatic cells that their protoplasm is more rapidly oxidized and displaced, thus exciting a more rapid absorption and isomeric transmutation of the proteid constituents of the blood into protoplasm of the hepatic cells. In this manner the inactive, sluggish and often absolutely pathological protoplasm of the cells is displaced and replaced by that which is physiological. With this progressive improvement in the nutritive tone of the liver, general assimilation will be augmented, and in due time similar changes will be wrought in all the structures and glands of the body, until a thoroughly diseased and pathological subject is converted into one that can fully perform its physiological functions.

The period of inaction, which is imposed upon the hepatic cells as a sequel to this excessive action gives the protoplasm elements this chance to rest and to imbibe this more serviceable nutritive pabulum—thus augmenting their nutrition and enhancing their functional vitality as just described.

When the hepatic cells again resume their physiological work, they are in a condition of high nutritive tone; and consequently the secretory and excretory work of the liver is more perfectly effected.

The intestinal and hepatic transmutation of the food elements is now more perfectly accomplished, and as a natural sequence, as already stated, all the nutritive processes of the body are intensified; secretion and excretion in general are now perfectly performed; and the animal vitality is raised to a higher standard, even to a normal state, provided the damage to the protoplasmic structures has not gone too far before inaugurating the proper mercurial line of medication.

If the system has been poisoned by any form of microbic, ptomain or toxic poison, or is the seat of any inflammatory action—toxic or otherwise—the organism is, by the

above described processes, placed in the best possible condition to destroy the etiological factors and remove the resulting pathological processes, and thus restore everything to a normal condition. The so-called and well-known antiphlogistic power of the mercurials is easily understood with this conception of the physiological and pathological action of the mercurials. Even the stronger preparations, which cannot be used as cathartics, act by virtue of their power to stimulate the hepatic gland into increased activity and in a secondary manner augmenting digestion, absorption and assimilation, secretion and excretion of all the glands in the body.

In like manner its action as an antisyphilitic remedy can be explained. Not by acting as a direct and chemical antidote to the syphilitic poison, because up to the present time we have no definite knowledge as to the exact character of the syphilitic poison, hence the absurdity of saying that a known quantity antidotes directly an unknown substance. On the other hand, we are justified in the assumption that the mercurials, which are known to augment the general glandular and nutritive activity of the system, raise the physiological tone to such a point that by its own inherent physiological action the system is enabled to rid itself of the syphilitic infection, whatever that may be, in the same manner that all toxic products are expelled from the system.

[This statement, coming from the source it does, will occasion no little surprise, and we do not think that there are many physicians who will agree with it. If mercury is beneficial in syphilis on account of its hepatic action only, then why do the other cholagogues produce no specific effect? We certainly have some excellent vegetable remedies, acting on the liver, such as podophyllum, leptandra, etc.; why not use them to the exclusion of mercury, a substance which is certainly capable of great mischief, if administered without great caution? Another question which the author would find rather difficult to answer: It is well known that as a cholagogue calomel occupies the first and foremost place among the mercurials; the action of the iodides of mercury—protoiodide and biniodide—is very slight in this direction. Why is it that in the treatment of secondary syphilis the preference is given to mercurous and mercuric iodide and not to calomel? Still another question: If we are to deny any specific action to mercury in the secondary stage of syphilis, ascribing all good results to a purely cholagogue and glandular action, how will we explain the action of potassium

iodide and the other iodides in the tertiary stage? To deny to mercury a specific action because we do not yet know the specific cause of syphilis, is no more logical than to have denied a specific action to quinine in malaria, before the plasmodium malariae was discovered.

Following this method of action <sup>[for]</sup> the mercurials, ptyalism, and all that class of symptoms produced by mercury and its compounds can be rationally explained. The same reasoning also shows clearly that the size of the single doses has little if anything to do in determining the liability to mercurial salivation. If, from any cause, the hepatic cells are too inactive, and thus fail to take up the mercurial from the blood as it flows past them, and fails to respond to the pressure of the mercurial salt, and to eliminate it through the bile ducts as speedily as it reaches the hepatic gland, then the mercurial will pass over into the general circulation, where finally the salivary glands will attempt to perform the eliminating that the liver cells should have done.

In like manner when calomel is given too freely, or when opium is given to check the cathartic action, the hepatic cells become exhausted from over-taxation, or they are retarded in their action by the opium; and then in either instance the mercurial passes into the general circulation. Thus, again, the toxic symptoms with salivation will be produced.

So long, however, as the hepatic cells retain their secretive and excretory activity, it is absolutely impossible to develop the toxic symptoms of mercury. The use of enormous doses may at times become the cause of exhausting the hepatic cells, wherefore poisoning will, of course, rapidly ensue. But, what more frequently occurs with the large dosage, is a quick stimulation of the hepatic cells, a copious discharge of the bile acids, and a sweeping of a large part of the mercurial from the alimentary tract before it can be absorbed, thus preventing the exhaustion of the cells consequent upon the elimination of an excessive amount of the mercurial salt.

The mercurial salts are often decidedly diuretic in their action by virtue of this general action upon the hepatic and assimilative function, which is followed by a better secretory and excretory action of all the glands of the body, and notably of the renal organs. In case the mercurial passes over into the general circulation, it is highly probable that some of the mercurial is eliminated through the protoplasmic elements of the renal cells, but its diuretic action is more often as above described.

In summing up, it may be said that the principal actions of the mercurials are:

1. Stimulant to the hepatic cells.
2. Cholagogue in action by virtue of exciting hyper-secretion of the bile acids.
3. Sedative, due to the two previous actions.
4. Its alterative, antiphlogistic, anti-syphilitic, diuretic effects, etc., are secondary to the above actions.
5. Ptyalism from mercury is due to the inactivity of the hepatic cells, and to the salivary glands attempting to do what should have been done by the hepatic cells.

## THE TREATMENT OF CYSTITIS<sup>1</sup>

By Chas. Chassaiguac, M.D.

THE treatment of inflammation of the bladder depends to such an extent, in any given case, upon the form of inflammation to be dealt with that it is essential to consider the classification and etiology of the various clinical types of the disease. The principal ones are as follows: (1) Gonorrheal cystitis, (2) tuberculous cystitis, (3) cystitis of urethral stricture, (4) cystitis of prostatitis, (5) cystitis of calculus, (6) cystitis of tumor, (7) traumatic cystitis, (8) cystitis by direct infection, (9) descending cystitis, and (10) cystitis from ingestion of certain irritants. A mere enumeration of them suggests what is in all cases the first indication, namely, the removal of the cause when possible. However, before taking them up *seriatim*, it will be useful to study briefly the general indications applying to a greater or lesser degree to all forms of cystitis.

*Rest.*—In all instances quiet is of great utility. The more acute the case the more important is rest, preferably in the recumbent position, unless the base of the bladder chiefly is involved, when the patient may be more comfortable propped up in bed. Pressure on the bladder can be removed by causing the knees and thighs to be flexed. Under the head of rest should be included the avoidance of sexual intercourse and excitement of any kind.

*Diet.*—Bland food should always be insisted on. In very acute cases milk diet or a bread and milk diet is the most satisfactory. In less severe or more chronic cases, when a more liberal bill of fare can be allowed, very rich dishes and highly seasoned food should be strictly forbidden. Rhubarb, sorrel, asparagus, and truffles are considered harmful. Alcohol in any form is to be strictly prohibited. The patient should be

<sup>1</sup> Read before the Louisiana State Medical Society, 1901., *Med. News*, LXXXIX, No. 11.

encouraged to drink a large quantity of water in order to render the urine as bland and unirritating as possible. Alkaline waters are usually preferable, notably French Vichy and good lithia waters. Sugars and sweets are to be used only in moderation. Tea, coffee, and tobacco should be avoided, if possible.

*Laxatives.*—The bowels should be kept gently open by means of mild laxatives and their condition must be watched, especially when opiates have to be administered. Any drug can be resorted to which acts gently on the patient, it being advisable to change the preparation from time to time if something has to be given often. Enemas are very useful and should be used either in conjunction with laxative remedies or to replace them.

*Baths.*—Hot baths, full or only to the waist, are of great utility by producing relaxation and relieving tenesmus. They should be given frequently, but should not be protracted. They assist also in diluting the urine by causing some absorption of water. [?]

*Hot Applications.*—Heat applied over the bladder by means of water-bags, or poultices, or compresses wrung out of hot water, produces a great deal of comfort, diminishing pain, tenesmus, and frequency of micturition. Hot-water enemas serve the same purpose, in addition to unloading the bowels.

*Intravesical Irrigations.*—Frequent washing of the bladder with warm, mild antiseptic fluids often prove curative as well as palliative. They can be made either by means of the catheter or by the Janet method directly through the urethra by pressure into the bladder. The author is partial to the latter on account of its convenience and also because contact with any sort of catheter is likely to prove painful and irritating. In either instance, mild solutions should be used and with great care. In acute cases the bladder should never be distended. The fluid should be allowed to run in only to the point of toleration, then evacuated, after which more can be introduced and expelled in succession for a number of times, unless pain is provoked. In chronic cases more in proportion can be allowed to enter, as the bladder is a little more tolerant and it is often useful to bring about a gradual distention of the bladder; the injection or irritation then becomes a sort of gymnastic exercise.

*Alkalies.*—Their administration is useful in neutralizing the normal acidity of the urine, hence diminishing its irritating properties. They should not be pushed beyond producing neutral urine and should be

omitted in cases in which the urine is already alkaline. Citrate of potassium, benzoate of sodium, and the alkaline waters already mentioned are probably the most valuable.

*Anodynes.*—The sensitiveness of the bladder and its frequent contraction from inability to retain any amount of urine provoke a good deal of suffering, particularly in acute cases, and the administration of anodynes becomes imperative. If the remedy can be given by the mouth, a good combination is codeine with hyoscyamus; to this can be added mild diuretics or any special medication indicated. If there is nausea or other contra-indication to administration by the mouth, suppositories of opium and belladonna can be introduced into the rectum at reasonable intervals; they act as a rule very promptly and efficiently, partly no doubt from their propinquity to the diseased organ. The danger of leading to a drug habit must be borne in mind, especially in cases having a tendency to chronicity, and the constipating effects must be combated as already mentioned.

*Antiseptics Internally.*—Most of the so-called urinary antiseptics can serve us in the majority of cases. They must be given cautiously in order not to cause irritation of the stomach and especially of the kidneys. Their relative value has been frequently discussed of late and the most effective are generally thought to be salol, urotropin, boric acid, and benzoic acid (or benzoates). Salol and boric acid in combination are the author's favorites. Urotropin may be added or used alone. It is often effective, but may provoke or keep up frequency in micturition.

All the above remedial measures are useful in all forms and at all stages of cystitis. They are more imperatively indicated in the acute cases and in the most acute have to be relied upon to produce a modification of the inflammation and the most painful symptoms, before more special medication can be resorted to. This being understood, we can review rapidly our clinical classification and study special indications. The latter cannot be much more than mentioned, as any detailed consideration would lengthen this paper to an unwarranted extent.

*Gonorrheal Cystitis.*—The inflammation is nearly always due to the invasion from the urethra of the gonorrheal poison. Hence, in addition to general measures already mentioned, our efforts should be directed toward the inhibition or destruction of the specific organism. By the mouth we can give salol, the salicylates or boric acid. Oil of santal usually proves soothing, as



it does in the urethra. Locally, irrigations of hot solutions of potassium permanganate are about the most satisfactory. At first, small quantities at a time should be used and the solution should be very mild, 1 to 10,000 or 8,000 at most; as improvement is manifested, the palliative measures can be gradually dispensed with and the quantity and strength of the solution can be progressively increased.

**Tuberculous Cystitis.**—By the mouth, the preparations of creosote are indicated, in addition to general tonics that are not distinctly stimulating. Irrigations with solutions of bichloride of mercury and nitrate of silver have been recommended, as well as instillations of small quantities of strong solutions of the latter. Injections of emulsions of iodoform have been found useful. The possible benefits from change of climate and from the exhibition of some of the modified tuberculins, as in other manifestations of tuberculosis, should not be neglected. The prognosis, however, is not good. If a cystoscopic examination should reveal the presence of ulceration, the patient's general condition being fair, a suprapubic cystotomy would be indicated in the male. This will facilitate curettage and topical applications; the latter procedure and the applications can be made in the female after dilatation of the urethra.

**Cystitis of Urethral Stricture.**—The constriction, impeding the normal outflow of urine, increases the contractions of the *detrusor urinae* and produces congestion; partial retention usually occurs to aggravate matters, and the inflammation which always exists in the urethra back of the constriction readily spreads to the bladder proper. In addition to general measures, treatment of the stricture includes everything. According to circumstances, gradual dilatation, electrolysis, internal urethrotomy, or external urethrotomy, can be selected. Complete evacuation of the bladder must be assured promptly; the more severe the cystitis and the longer its duration, the more we should incline toward operative measures and do them promptly and radically.

**Cystitis of Prostatitis.**—This is analogous to that produced by stricture of the urethra and the indications are the same, except, of course, that the operative measures must be directed to the prostate. The latter can be enucleated, preferably by the combined suprapubic and perineal method, or can be acted upon by the cautery after the method of Bottini. Much can be done in palliation by relieving the bladder of residual urine by means of careful catheterization at proper intervals, by irrigations, and by the

cautious administration of urinary antiseptics.

**Cystitis of Calculus.**—Removal of the offending body either by lithotripsy or suprapubic cystotomy is the treatment. If the cystitis is very pronounced and of long standing, we have a strong argument in favor of the cutting operation.

**Cystitis of Tumor.**—If the case is operable, removal of the tumor by the most available route and method removes the cause, and general measures do the rest. If the tumor cannot be successfully removed, palliation alone is possible. In malignant tumors, if circumstances justify it, the bold surgeon can consider the removal of the bladder with transplantation of the ureters, but these growths almost invariably recur.

**Traumatic Cystitis.**—This form of cystitis is due to injury from external sources such as gunshot, incised or punctured wounds, lacerations from fragments of fractured bone, or to internal injury, such as violent instrumentation, and the treatment must be based upon the principles of general antiseptic and aseptic surgery. The special indication is to keep the organ well drained in order to avoid complications due to leakage of urine. General measures already mapped out are useful and often necessary.

**Cystitis by Direct Infection.**—As this is generally provoked by the entrance of a poison of some sort directly into the bladder by means of an unclean catheter, bougie, searcher, trocar, or cystoscope, the special feature is more in the direction of prevention than of cure. All vesical instruments, and all urethral instruments as well, should be thoroughly sterilized before introduction. The urethra should be thoroughly irrigated, the glans and meatus receiving careful attention. The surgeon's hands should be surgically clean. Special attention should be paid to the lubricant used. After harm is done, ordinary measures will suffice, adding thereto any special feature made necessary by the character of the infection if such be specific. As an illustration of my meaning, I may cite a case of cystitis caused by the introduction of a sound previously used in a case of chronic gonorrhea and not properly sterilized. Such would necessarily have to be treated like any other attack of gonorrheal cystitis. The bacillus coli communis has been known to infect the bladder by direct penetration therein. Antiseptic irrigations, assisted by general measures, control the inflammation.

**Descending Cystitis.**—Inflammation in the kidney, the ureter, or both, traveling downward, finally invades the bladder, or the secretion itself directly produces cystitis



which, be it said parenthetically, often clouds the diagnosis as much as the urine. Treatment of the bladder can only give temporary results. A cure can follow only a healing of the ureter and kidney, or the removal of the same if necessary.

*Cystitis from Irritants Taken Internally.*—This form is easily controlled by a discontinuance of the drug or other offending substance, and by the general measures to which allusion has repeatedly been made. Turpentine and cantharides are most likely to offend. Their use internally or over the skin must be watched, and must be discontinued at the first sign of vesical irritation. A sometimes puzzling manifestation of the effects of cantharides follows the enjoyment of papabotes (a southern sand-piper) that have indulged in a copious meal of Spanish flies. The writer has frequently seen patients, otherwise well, very much alarmed by a sudden and severe attack due to this cause.

## CAUSES, SYMPTOMS AND DIAGNOSIS OF CHRONIC INTESTINAL CATARRH<sup>1</sup>

By Boardman Reed, M.D.

No disease affecting the digestive system, says Dr. Reed, is more prevalent than the chronic form of intestinal catarrh. It is very often overlooked, the victims being treated for the associated neurasthenia which in some cases may be the cause, and in many others is certainly a consequence. The only symptoms of certain mild cases are often nervous derangements, and in the earlier stages of the less severe cases there may be absolutely no symptoms.

*Etiology.*—Some of the causes which provoke acute catarrh of the intestines also tend to produce the chronic form. These include improper diet, and especially over-eating, insufficient exercise of the abdominal muscles, enteroptosis, constipation, the abuse of purgatives and a prolonged excessive secretion of the gastric juice (hyperchlorhydria) among other etiologic factors. It is probable that in persons with an inherited tendency to it, lithemia, as well as neurasthenia due to excessive mental work or overstrain of the nervous system in any way, especially sexual excesses or irregularities, may stand in a causal relation to chronic enteric catarrh, as also to various other derangements and diseases of the digestive system. The most frequent sequence of events in these cases is, according to the author's experience, as follows:

- (1) An inherited neurotic tendency; (2)

overstrain or other injury to the nervous system with deficient exercise and excessive eating, often provoked by tonics; (3) a resulting derangement of the digestion either gastric or intestinal or both, and perhaps most commonly some aberration of the gastric secretion, especially hyperchlorhydria; (4) a secondary functional constipation or diarrhea; (5) autointoxication from the absorption of the toxic products of a perverted metabolism; and (6) enteritis, which is often acute at first, recurring frequently enough to set up finally a chronic inflammatory process, though it may be in many instances chronic from the beginning. In all the persistent cases, of course, a vicious circle becomes established, and then the catarrhal process and autointoxication are each increased by the other. The disease may result secondarily from morbid growths in or adjacent to the intestines and from certain affections of the heart, kidneys, stomach, liver, tuberculosis of the lungs or the bowels, as well as from organic disease in other parts of the body, including, of course, typhoid fever and sometimes malaria. Influenza is perhaps the most frequent acute cause of the disease and the recent large increase in the prevalence of appendicitis is doubtless a direct result of repeated attacks of grippe involving the intestines.

*Symptomatology.*—Though there may be no symptoms at first, yet even in the lightest case the patient commonly shows some falling off in nerve tone and in both mental and physical vigor, or is at least more easily tired than usual. There is likely to be felt also quite early in any pronounced case, uncomfortable sensations, referred to some part of the lower abdomen. These come on two to four hours, or even longer, after a meal, and coincide usually with a feeling of pressure, fulness or distention from gases which often cause rumbling and gurgling sounds—borborygmi. These flatulent symptoms frequently constitute the only discomfort experienced, the bowel movements continuing for a time apparently normal, though generally there is either constipation or diarrhea, or first one and then the other. When such an alternation exists, the underlying condition is really one of constipation, the recurring attacks of diarrhea being due to the irritation provoked by retained masses of feces. When the catarrh involves the colon, the acme of symptoms generally occurs shortly before the stool. In the cases of chronic colitis, where there are only one or two stools daily, and these in the morning, the patient is likely to be awakened early by the accumulation of

<sup>1</sup> *Internat. Med. Mag.*, x, No. 7.

gases, with the resulting discomfort or pains.

In duodenal catarrh the stomach is nearly always more or less involved. Exceptionally then, and sometimes when the catarrh affects only other parts of the gut, there may be nausea, vomiting and loss of appetite. Anorexia is indeed a very common symptom in all the severer forms. Pain or discomfort within an hour or two after taking food is often experienced in duodenal catarrh, and in these cases, also, even with no demonstrable implication of the stomach, there is likely to be much eructation of gas, coming on soon after beginning to eat. The same phenomenon you may observe after a thorough lavage. This seemed to the author difficult of explanation until he reflected that the opening of the pylorus for the downward passage of the liquid in the stomach would permit an upward rush of the gases which were distending the bowel. Vertigo, headache, anorexia and jaundice, or at least a very muddy color of the skin, are much more frequently encountered in catarrh of the duodenum than when this most important part of the digestive tube is not involved. When the rectum shares in the catarrhal process, the patient will usually complain much of tenesmus after the evacuations. There may be no really painful straining, but instead only a feeling that the stools are not complete—as though some feces remain which cannot be expelled.

In severe or advanced cases of catarrh in any part of the bowels, there is always much self-poisoning from the absorption of the products of faulty metabolism, and many of the typical symptoms of lithemia and nerve exhaustion may be found, including especially palpitation of the heart with cold extremities, more or less anemia, insomnia, either mental depression or great irritability, impaired memory, physical debility, etc. In bad cases which do not respond to treatment, a more or less progressive emaciation and loss of strength will likely be observed, as well as a gradual aggravation of all the symptoms, including, especially, as a rule, a stubborn diarrhea.

Boas calls attention to the great variability of different cases of chronic enteric catarrh, some running an almost latent course, while others are marked by very troublesome symptoms. He has found the general condition of the patients in cases characterized by constipation to be usually little altered, while in chronic enteritis accompanied by copious diarrhea, especially if it involve predominantly the upper bowel, the condition of the patient is much more

serious. This one would naturally expect, since chronic enteritis with diarrhea, which persists, is usually either complicated by ulceration or else considerable portions of both the small and large intestines are involved.

The objective symptoms of intestinal catarrh have to do mainly with the character of the stools, as well as with signs to be elicited by palpation and by succussion or clapotage (tapping the abdomen with the finger tips to produce splashing sounds). Inspection of the uncovered abdomen may also afford information, by showing tympanitic swellings over either the whole lower abdomen or over the cecum or other portions of the intestines. These would render probable the existence of a spastic condition or irregular contractions of the circular fibers of the bowel, though not diagnostic of such a complication.

In any well-marked case of enteric catarrh, palpation will generally reveal tender areas corresponding to the locality of the part of the intestine involved, especially when this is the colon, and these will be most readily demonstrated where hard feces are present. Such areas are most commonly found over the cecum, sigmoid flexure, or the middle portion of the transverse colon. If the disease has continued long, deep and careful palpation will often detect the appendix thickened by a catarrhal inflammation and more or less sensitive to pressure. In such cases considerably more muscular resistance will be felt in palpating over the right than over the left iliac fossa. In cases in which there is much catarrh of the cecum, a splashing sound may be elicited over that region at almost any time when there is diarrhea, and often in the constipated cases as well, especially a few hours after much fluid has been taken, though this sign may signify merely dilatation of the cecum. The splash may often be obtained over other parts of an atonic colon at a suitable time after taking food or drink. Palpation may also reveal masses of hardened feces in any part of colon.

All kinds of stools may be observed in chronic enteritis, from thin watery ones passed three to ten times or even much oftener in the twenty-four hours, to those apparently normal in all respects. Usually, however, more or less mucus will be found with the evacuations—intimately mixed through them as a rule, when the trouble is mainly in the upper intestine, and smeared over the outside of formed stools when the colon only or chiefly is affected.

A close inspection of the stools even macroscopically will often enable one to dis-

linguish particles of undigested food, and by the aid of the microscope there can be detected in most cases of catarrh, undigested muscle fibers, starch granules, lumps of casein, fat globules, etc. Neither blood nor pus is usually to be met with in uncomplicated enteric catarrh, and when present in considerable quantity would point to complications. Even the entire absence of mucus for long periods does not exclude catarrh, since there may be atrophy of the mucous membrane, or the mucus may be retained in pockets for considerable periods before being passed.

**Diagnosis.**—Well-marked chronic intestinal catarrh will be easily recognized by the description above given; but the atypical cases may well bother any physician until after having been for some time under observation. The chief distinguishing features are at least a slight, and sometimes very marked, impairment of the general health in connection with pain or discomfort in the bowels and tender areas over them, irregularity in the character or number of the stools, and usually the frequent or occasional presence of mucus in them. There is also nearly always an excessive formation of gases in the intestines, much of which, however, when the disease is in the upper intestine, may escape upward into the stomach and be eructated. The greatest complaints from bloating or gaseous distention will naturally be made in those cases complicated with constipation. An important confirmatory sign is the presence in the urine of indican or aromatic sulphates, or both, in excessive quantities, though these may be found also in cancer, tuberculosis, intestinal obstruction, etc., and may be absent in mild cases of chronic enteritis.

The greatest difficulty that is likely to be encountered will be in differentiating chronic enteric catarrh from nervous forms of diarrhea resulting from vasomotor paresis. Boas holds that in some instances the diagnosis between these can scarcely be made. But in genuine nervous diarrhea, there is no mucus and rarely any pain; the stools are not fetid, no indicanuria or excess of the aromatic sulphates is likely to appear in the urine, and the attacks are usually transient, as well as coincident with an increase in the other neurasthenic or hysterical symptoms. If such diarrheal attacks recur often, and particularly if they incline to linger for days at a time, it may well be suspected that a catarrhal process has been set up. Constipation from stricture, tumors, etc., is to be differentiated also; but when these persist long a catarrhal process nearly always results.

Above all, it should not be forgotten that intestinal catarrh is by no means synonymous with diarrhea, the majority of the cases being accompanied at first at least by constipation.

#### CARDIAC DRUGS AND THE VASOMOTOR TREATMENT

This is the subject of a paper by Prof. Gottlieb,<sup>1</sup> of Heidelberg. The object of cardiac and vasomotor treatment is to restore the lost equilibrium of circulation. Cardiac drugs restore the energy of the heart, increase the force of the systole, and thus tend to counteract the results of unequal blood-distribution.

*Digitalis* acts chiefly by increasing the cardiac energy, its vasomotor effect being of secondary importance. Experiments on frogs, and recently on warm-blooded animals, have convincingly proved that the drug increases the volume of the systole. By means of a special arrangement, the author has shown that the energy of ventricular contraction is trebled and even quadrupled after a dose of digitoxin. Besides, by slowing the pulse, *digitalis* favorably influences the heart-function by allowing a better diastolic filling of the cavities.

Other drugs acting similarly to *digitalis* have in addition a vaso-constricting effect, which enjoins greater caution in their employment.

*Camphor* acts directly by increasing the irritability of the cardiac muscle, and also indirectly through the vasomotors. It has but little effect on the normal heart. In pathological conditions, on the other hand, it may prove life-saving by counteracting heart-failure.

*Caffeine* acts directly on the heart, but in a manner quite different from *digitalis*. In cases of normal blood pressure it does not affect the heart. Where the arterial tension is great, however, it strengthens the cardiac action.

*Alcohol* is no direct stimulant but acts by diminishing the peripheral resistance.

#### ICHTHYOL IN ANTHRAX

Dr. Joffe<sup>2</sup> recommends ichthyol in anthrax. After removing the scab which covers the malignant pustule, the ulcer is touched with the thermo-cautery and covered with compresses saturated with a mixture of 1 part of ichthyol to 3 parts of glycerin. The compresses are renewed once or twice a day. In two to three days the whole malignant process is at an end; only the crust is left, which soon falls off.

<sup>1</sup> *Med. Press and Circular*, July 24, 1901.

<sup>2</sup> *Klin.-therap. Woch.*, VIII, No. 19, p. 638.

# Progress in Materia Medica and Drug Therapy

## ATROPINE IN ACUTE PULMONARY EDEMA

Prompt and energetic measures are most urgently called for in acute edema of the lungs. No time should be lost in attempts at blood-letting or internal medication, but the hypodermic syringe should be resorted to immediately. Dr. Charles O'Donovan<sup>1</sup> recommends  $\frac{1}{60}$  grn. of strychnine with  $\frac{1}{100}$  grn. of atropine sulphate, to be injected beneath the skin just below the clavicle, in order to reach the heart sooner. A few minutes will bring evidence of the action of atropine: the skin becomes moist and warm, the breathing deeper and less frequent, the suffocation relieved. The effect is often striking. Should the pulse regain its force after the first injection, a single dose will be sufficient; otherwise additional hypodermics of strychnine are to be given to stimulate the flagging heart.

In cases presenting high arterial tension and a strong heart action, the atropine may be combined with nitroglycerin and morphine.

The dose of atropine required is to be measured by the physiologic effect; that is, enough should be given to produce dilatation of the pupils. It is safe to begin with  $\frac{1}{100}$  grn. and to repeat the dose at intervals of half an hour or longer, until the desired result is obtained.

The action of atropine being exerted chiefly on the lungs and terminal arteries, it is wise to supplement it by a direct cardiac stimulant, and as such strychnine is the best.

## BETA-EUCAINE ACETATE, A NEW FORM OF EUCAINE

The salt of eucaine which has been most commonly used is the hydrochlorate. Recently a new salt—namely, the acetate—has been put on the market, and Dr. Paul Cohn<sup>2</sup> reports upon its uses. It is superior to the hydrochlorate in that it is very readily soluble in water, even to the extent of 1 in 3. In other respects it behaves exactly like the hydrochloric acid salt; thus the addition of an alkali causes precipitation of the free base, and it can be sterilized by boiling without undergoing decomposition.

In Professor Silex's Polyclinic the new drug was tried upon twenty normal eyes, and upon eighty affected with various pathological conditions. Special attention was paid to the indications for its use in ordinary office practice. It was employed in a

2-per-cent. watery solution, after it had been found that stronger concentrations did indeed have more rapid effects, but were followed by undesirable symptoms of conjunctival irritation.

As regards the pathological cases in which the drug was tried, they were confined to such as belong to what may be called minor surgical ophthalmology, and which are generally treated in the practitioner's office. In ten cases foreign bodies, most often splinters of iron, were removed from the cornea. After 4 or 5 drops the cornea was sufficiently anesthetic to permit of their removal, even when deeply seated. Small traumatic infiltrations left after the removal of a foreign body were curetted out with equal readiness.

Four to five drops were also sufficient to permit of the galvano-caustic treatment with the platinum point of infiltration, corneal ulceration, erosions, and pterygia, which latter are treated by this method in the Silex clinic with the best results. This amount sufficed to render the little operations entirely painless.

The acetate of beta-eucaine was just as useful as cocaine in diseases of the lachrymal apparatus; slitting of the canaliculus, the introduction of sounds, and lavage of the duct could be effected without any pain to speak of after the instillation of a few drops of the 2-per-cent. solution.

Ten patients suffering from chalazion were relieved of their trouble without much pain after the instillation of 3 or 4 drops of the 2-per-cent. solution of beta-eucaine acetate, by incision from the conjunctival surface, followed by curetting out of the contents of the tumor and the excision of a piece of the tarsus.

The subconjunctival saline injections furnished a further indication for the use of the anesthetic. This process has been employed with good results in Prof. Silex's clinic for opacities of the vitreous, choroiditis macularis, ablatio retinæ, and old keratitis and corneal opacities. A half to one syringe of a 4-per-cent. solution is injected every fourth or fifth day. After the instillation of 3 drops of the beta-eucaine acetate solution the injection, and more especially the introduction of the canula, could be effected even in children with hardly any pain. In forty injections pain of any severity and reddening of the bulb were observed only twice; and these were in eyes that were already moderately injected from

<sup>1</sup> *American Med.*, II, No. 11.

<sup>2</sup> *Med. Week.*, Sept. 9, 1901.

chronic inflammation or increase of ocular tension.

The author summarizes his experiences as follows:

The anesthetic power of beta-eucaine acetate is equal to that of beta-eucaine hydrochlorate and cocaine.

Poisonous symptoms of any kind were never observed, even when, for various reasons, it was administered very freely. Nor did it have any deleterious influence upon the corneal epithelium.

Disturbance of accommodation or mydriasis was never noticed; nor was there ever any change in the ocular tension.

The very slight disadvantages inherent to the employment of the drug, such as the slight burning and lachrymation shown by most of the patients, and the very moderate conjunctival hyperemia, have little weight compared with its good points.

#### TREATMENT OF GONORRHEA WITH AIROL

Dr. Martin Friedländer,<sup>1</sup> of Berlin, having seen good effects from airol in chancres, erosions, etc., recommends the same remedy in gonorrhea. We know that iodine has some peculiar relation to the gonococci, since they are the only cocci which are decolorized by Gram's solution. Airol in aqueous suspension liberates iodine, and this being *in statu nascendi* manifests a strong action. On this consideration the author bases his treatment. After the patient has urinated, the injector is filled with a pint of cold water and  $\frac{1}{2}$  to 1 dr. of airol added, with constant stirring. This mixture is then injected in small quantities at a time, until all is used up. The fluid returns colored reddish, thus showing the presence of free iodine. In connection with this, the patient uses zinc sulphocarbolate, tannin or resorcin, by injection. Only the first injection is painful.

#### JAMBUL IN DIABETES MELLITUS

Dr. Wm. Mackie<sup>2</sup> reports the following case to illustrate the sugar-reducing properties of jambul: The patient was a man, aged forty, who to the author's knowledge had suffered from diabetes for at least three and a half years. In addition to evidence of former gonorrhea there were also well-marked symptoms of syphilis. At different times during the progress of the disease he had been treated with potassium iodide, codeine, uranium nitrate, and other drugs, with little or no improvement. Latterly, while under treatment as an out-patient, he

was put on jambul, in doses up to 3 dr. of the powder thrice daily. Under this substance he expressed himself as feeling better than he had done under any former treatment. He improved in color though evidently not much in weight.

The treatment had continued some weeks, when it was resolved to test the action of the drug as a sugar-reducing agent. The patient was accordingly admitted to the hospital. It may be mentioned, as showing the advanced stage of the disease, that he had for some months shown a dense cataract of the right lens as well as a perceptible haziness of the left. For the first week in hospital he had no treatment, and for diet he had simply the ordinary hospital fare. The treatment by jambul had been suspended about a week before his admission, so that for about a fortnight there had been an entire cessation of all treatment whatsoever. At the end of this time the urine was collected on three consecutive days and its sugar content estimated by standard Fehling's solution. The average daily quantity was found to be 256 oz., containing an average of 4.65 per cent. of sugar, that is, about 12 oz. Jambul, in doses to be rapidly increased from 1 dr. to 3 dr., was ordered, three times daily, without restriction as to diet, with the result that for the next six days the average quantity of urine secreted was 214 oz., containing on the average 3.92 per cent. of sugar, and corresponding to a daily output of 8.4 oz. He was then put on a restricted diet, consisting chiefly of meat, and had saccharin as a sweetening agent, the maximum dose of jambul remaining as before. The urine for the next seven days averaged 215 oz. (the lowest observed quantity being 190 oz.) with an average sugar content of 3.22 per cent., which gives a daily average of about 7 oz. of sugar. The daily average output of sugar had thus been brought down from 12 oz. to 7 oz., a decrease of 5 oz., of which 3.5 oz. was to be ascribed to the action of the jambul, and 1.5 oz. to the restriction of diet.

From this case the author concludes that jambul, with or without restriction of diet, might reasonably be expected to control early and mild cases.

#### TREATMENT OF ENURESIS

Dr. Philip F. Barbour<sup>1</sup> states that of all the remedies used by him in treating nocturnal enuresis, he found a combination of boric acid and salol to be the most efficient. He came to use the remedies accidentally. A child was brought to his clinic troubled

<sup>1</sup> *Klin.-therap. Woch.*, VIII., No. 7.

<sup>2</sup> *Brit. Med. Jour.*, No. 2123.

<sup>1</sup> *Therap. Gazette*, Sept. 15, 1901.

with enuresis. On examination the urine was found exceedingly offensive and alkaline in reaction. Desiring to acidify the urine and knowing that boric acid is best for this purpose, he prescribed a saturated solution for internal administration. The results were gratifying, as also in the next few cases in which he tried it. Later salol was added and the results were so gratifying that the combination became the routine treatment in the author's practice.

#### ICHTHYOL IN ERYSIPELAS

Dr. Eschle<sup>1</sup> has employed ichthyol in the treatment of erysipelas with great success. The affected region and the adjacent area of the healthy skin are covered with a thick layer of ichthyol. Speedy relief follows, and especially the tension decreases perceptibly. It is seldom necessary to repeat the application on the third day. Usually the disease comes to a standstill and desquamation follows inside of a week. No failures were recorded.

#### PYRAMIDON CAMPHORATE IN NIGHT-SWEATS

Drs. B. Lyonnet and Lançon<sup>2</sup> have used the drug in fifteen tuberculous patients for its effects on night sweats. The results were good. The sweats ceased and the patients generally felt better. The dose administered was 8 grn. twice a day in cachets, but this dose may safely be exceeded. With but rare exceptions the pyramidon camphorate is well borne.

#### A SEVERE CASE OF CANCRUM ORIS ENDING IN RECOVERY

Taking into consideration the great fatality of cancrum oris in children, the following case, reported by Dr. A. Kissel,<sup>3</sup> possesses some points of interest. The patient was a boy, five years of age. At the age of three he suffered with scarlet-fever, and has been twice ill with bloody diarrhea. His father was consumptive. Three weeks before the doctor's first visit, the child was attacked with measles, which soon became complicated with violent bloody diarrhea. In about ten days there was strong fetor from the mouth and loosening of the gums; six teeth fell out, and a red spot formed on the chin, which soon became gangrenous and caused perforation. An examination showed also pneumonic consolidation of the right lung. The edges of the ulcer, as well as its bottom, which was formed by the denuded alveolar process of the inferior max-

illary, were necrotic. There was also a necrotic ulcer, 2 inches in area, on the upper jaw. Both ulcers were at once thoroughly scraped with a sharp spoon, washed with a hot 1:4000 potassium-permanganate solution, and rubbed well with iodoform. The mouth was washed frequently. Internally, bismuth subnitrate, infusion of ipecac, and wine were administered. The same procedure, with the exception of the scraping, was repeated every day. Gradually the condition improved, the necrotic bone came away, and the ulcers healed. The bloody stools and the pneumonic consolidation also disappeared. The above described method proved successful in the author's hands in five cases, but this was the first case with such severe complications.

The author states that besides the early local treatment, special attention must be paid to the nutrition of the patient and the thorough ventilation of the sick room.

#### FORMULA FOR CHAFING

For chafing about the groins and under the arms in children, Dr. R. B. Elderice<sup>4</sup> recommends the following formula:

Ichthyol.....	1 dr.
Comp. Tinct. Benzoin.....	1 dr.
Boric Acid (finest powder) ....	1 dr.
Petrolatum.....	1½ to 2 oz.

Apply at each change of napkin.

#### TREATMENT OF LEG ULCERS

Dr. Rank<sup>5</sup> has employed the following ointment in the treatment of ulcers of the leg with very good results:

Powd. Camphor.....	5 grn.
Olive Oil.....	30 min.
Sol. Lead Subacetate.....	30 min.
Oint. Amm. Mercury.....	9 dr.

The four patients so treated were wash-women who had to stand up all day, and continued to do so during the treatment. The ulcers had been greatly neglected, some of them being 5 to 6 inches long. Nevertheless the results were highly gratifying. In one case the healing was complete, and in the other three the ulcers were reduced to the size of about a ten-cent piece.

#### ATROPINE IN HAY-FEVER

Hay-fever is a very common disease in England and America. Its most troublesome and obstinate element is doubtless asthma. Up to date, the treatment of hay-fever has been unsuccessful, and all authorities agree that so far no case of typical hay-fever has been completely cured.

Considering this condition of affairs, Dr.

<sup>1</sup> *Heilkunde*, 1901, No. 6.

<sup>2</sup> *Rev. de Thérap.*, 1901.

<sup>3</sup> *Centr. f. d. ges. Therapie*, Oct., 1901.

<sup>4</sup> *Med. Summary*, No. 5, 1901.

<sup>5</sup> *Münch. med. Woch.*, 1901, No. 33.

Alexander Simon<sup>1</sup> reports a case of typical hay-fever, complicated with severest attacks of asthma, which were most effectually and promptly banished by means of atropine.

The patient was a man of thirty-three years, otherwise in perfect health. As the result of a cold, he contracted an obstinate coryza, which would subside in autumn, only to return in summer. After a duration of three years this rhinitis became complicated with a severe conjunctivitis, and soon asthmatic attacks supervened. The seizures occurred every evening and lasted about an hour.

With the advent of the first August days the asthma regularly disappeared, together with the rhinitis and conjunctivitis. The asthmatic period lasted four weeks.

In the course of years the patient found a number of drugs to be of service to him. He used potassium iodide in large doses, arsenic, morphine occasionally, etc.

Once, after going through an unusually obstinate seizure, and being desirous of preventing a relapse, he took  $\frac{1}{400}$  grn. of atropine sulphate by the mouth, and thus succeeded in warding off the attack. During the three following days he continued taking  $\frac{1}{200}$  grn. of atropine daily. Since that time the asthmatic seizures disappeared as if by magic.

After due consideration of the facts in the case, the author concludes that the prompt and permanent cure was due to the atropine, a remedy of long-established value in other forms of asthma.

#### SULPHUR IN DYSENTERY

The treatment of dysentery was summarized by Sir William Gull in three words—"rest, warmth, and ipecacuanha."

However, in many cases these measures prove disappointing. Remembering that sulphur is an efficient substitute for ipecac in the local treatment of anthrax, Dr. G. E. Richmond<sup>2</sup> decided to try the same substitute in dysentery. He prescribed 20 grn. of sublimed sulphur with 5 grn. of Dover's powder every four hours. The two cases in which the treatment was carried out both bear testimony to the value of sulphur in this affection. It is no specific, but a welcome addition to our remedies. As soon as the diarrhea diminishes, less frequent doses should be given, otherwise obstinate constipation will follow. The remedy seems to exert an antiseptic action.

Pain and tenesmus are relieved by sulphur more effectually than under other

methods of treatment. Moreover, the cure obtained seems to be more lasting, the disease showing less tendency to become chronic or to relapse. Bloody and mucous stools rapidly give place to fecal evacuations, and the odor of the feces becomes less offensive, though the number of movements does not at once diminish.

The author has not met with a case of dysentery which would not yield to the sulphur treatment.

#### MONO-CHLORPHENOL IN RINGWORM

For a long time Dr. Barbé<sup>1</sup> has used mono-chlorphenol in the treatment of ringworm with very gratifying success. A strong solution is applied once a day for several days in succession. There is no pain, only a slight smarting, which disappears rapidly. This drug has an advantage over tincture of iodine, in that the patches disappear without desquamation and there is no discoloration of the skin.

#### TANNOFORM IN EXCESSIVE SWEATS

Tannoform, a combination product of tannic acid and formaldehyde, has gained firm ground in modern therapeutics, especially in veterinary practice. Excessive perspiration of the hands and feet, or in the arm-pits, is occasionally an extremely troublesome disorder, which sometimes banishes the victim from society. Fresh sweat possesses a weak and not unpleasant odor, and it is only through rapid decomposition that the offensively smelling fatty acids arise. These irritate the skin, cause erosions and inflammations, and form a constant source of suffering.

To give internal remedies, such as hyoscine, camphoric acid, etc., is to check the perspiration of the whole body, while the medication is to relieve only the local excess. Therefore external remedies deserve our preference. Chromic acid, alcohol, salicylic acid, and others are all useful, but they affect the skin to a certain degree.

In tannoform, we have a new remedy which is exempt from all toxic properties. Numerous experiments were made on soldiers with excellent results. A dusting-powder of tannoform and talcum was employed for sweating feet and the combination was found to act rapidly and effectually in checking the offensive secretion. Tannoform has also been used in night-sweats of consumptives, as well as in intestinal disorders. The drug is a reddish, almost tasteless, odorless powder, free from toxic properties.

<sup>1</sup> *Deut. med. Woch.*, xxvii, No. 28.

<sup>2</sup> *London Lancet*, clx, No. 4059.

<sup>1</sup> *Annal. de Dermat. et de Syph.*, 1901.

<sup>2</sup> *Medizin. Umschau*, 1901, No. 33.

**GELATIN AS A HEMOSTATIC**

Dr. Lafout-Grellety<sup>1</sup> warmly recommends gelatin as a hemostatic in gynecology. He could check bleeding during pregnancy by inserting a tampon soaked in a warm gelatin solution into the vagina.

In endometritic hemorrhages a 10 per cent. solution of gelatin may be injected into the uterus once daily and followed by the introduction of two gelatin tampons into the vagina. These tampons are also useful in the hemorrhages of uterine cancer.

To prevent profuse bleeding during curettage, a continuous irrigation of the uterine cavity with a warm 1 per cent. solution of gelatin, containing 1 per cent. of carbolic acid, is advisable.

**PILOCARPINE IN CROUP**

Having found our usual remedies to fail occasionally, Dr. S. E. Wertman<sup>1</sup> decided to try pilocarpine hydrochlorate. He treated five cases of croup with this medication, and the success well repaid his efforts.

Excellent results were obtained from the drug administered subcutaneously, in doses of  $\frac{1}{48}$  to  $\frac{1}{24}$  grn., according to the child's age. The disease was checked and the membrane absorbed, one to two days having been sufficient to cure the most obstinate case.

Antitoxin was used by the author in three cases with no effect. All three patients died, one of them soon after the injection.

**THE INTERNAL TREATMENT OF ANTHRAX WITH COLLARGOL**

Dr. Fischer<sup>2</sup> reports a case in which there was a large anthrax carbuncle occupying the entire right half of the face. There had been repeated chills and high fever; the general condition was bad, and swallowing was difficult. The patient being a robust young man, and under hospital supervision, an immediate operation was not performed. An intravenous injection of 5 Gm. (75 grn.) of a 1-per-cent. solution of collargol was administered. His condition improved for several hours, and then became worse than it was before. After the second injection the improvement lasted longer, and after the fourth (he received one injection daily) it became normal. It was especially worthy of notice that no deep necrosis occurred; the induration was entirely absorbed, and fourteen days later only a small superficial scab came away. Anthrax bacilli were repeatedly demonstrated, both in the carbuncle and in the patient's blood. He had no other treatment. The case was ap-

parently a hopeless one; and the rapid improvement can only be ascribed to the intravenous injection of the collargol. There were absolutely no disagreeable by-effects.

**IODIPIN IN THE TREATMENT OF SYPHILIS**

Dr. Carl Grouven,<sup>1</sup> physician to the Royal Clinic of Skin Diseases and Syphilis at the University of Bonn, reports excellent results from the use of iodipin in tertiary syphilis. The tests were made very carefully: in order to determine the exact status of iodipin as a therapeutic agent, no other medication was given either before or at the time of the administration of that drug. Only after the effects of the iodipin had manifested themselves unmistakably, supplementary treatment was instituted, according to the requirements of the case. The author gives the histories of twenty-three cases. They comprised serpiginous and ulcerating syphilides, ulcerating gumata, cutaneous and subcutaneous, oritis and periortitis, gummatous perforation of the soft palate, syphilitic affection of the central nervous system, etc. The iodipin was administered chiefly by hypodermic injection—10 Cc. of the 25 per cent. preparation every other day; the intrascapular region was considered the most suitable place. No disagreeable effects ever followed the injection; in some cases there was a feeling of tension, but it disappeared soon after slight massage. In several cases the 10-per-cent. iodipin was given internally in doses of 1 dram three times a day. The author states definitely that neither after the hypodermic, nor after the internal, administration of iodipin were there ever any symptoms which could be designated as manifestations of iodism. Therefore, taking into consideration the many untoward and even dangerous by-effects of potassium iodide, iodipin must be welcomed as an iodine preparation of the highest value. He also emphasizes the point that in the cases with the severest dyscrasia, where the system was completely run down, the beneficial effects of the iodipin were most in evidence. He thinks that the fatty constituents of the iodipin play a not unimportant rôle as a reconstructive. Furthermore, he corroborates the statements of all other observers, that iodine is found in the urine for a long time after discontinuing the administration of iodipin, thus showing its slow decomposition and elimination. The iodine can be easily demonstrated in the urine by adding fuming nitric acid and then shaking with chloroform, or using the starch test.

<sup>1</sup> *Klin.-therap. Woch.*, VIII, No. 21.

<sup>2</sup> *Münch. med. Woch.*, August, 1901.

<sup>1</sup> *Arch. f. Dermatol. u. Syphilis*, LXII, Nos. 1 and 2.



The good results obtained from iodipin by numerous observers encouraged Dr. Karl Holzhauser<sup>1</sup> to try the remedy in syphilis. He experimented on patients of the Dermatological Clinic in Strassburg, found the remedy very valuable, and reports the following instances of its efficacy:

Case I.—Patient contracted syphilis three years ago, and was treated repeatedly with mercurial injections. The appearance of a gumma on the left parietal bone brought him to the clinic. The tumor was the size of a walnut, was painless, and showed fluctuation. Potassium iodide was given without any effect. After 5 dr. of the 25 per cent. iodipin hypodermically, complete cure was obtained.

Case II.—A woman with condylomata, ulcerations, and infiltrations of evidently specific nature. She received hypodermically, in all, 12½ dr. of the 25 per cent. iodipin, and marked improvement was evident in two weeks.

Case III.—Patient had had syphilis eight years before, and was then treated with mercurial inunctions. Had at present a tubercular syphilide on the right breast. The administration of 12½ dr. of 25 per cent. iodipin subcutaneously brought about a complete cure.

Case IV.—Child with hereditary syphilis. Periostitic tuberosities with ulcerations of the ulna, ulcers on the legs, etc. About 3¼ oz. of 25 per cent. iodipin were injected. The tuberosities disappeared rapidly after half the quantity had been taken; the ulcerations healed more slowly. Patient now receives 10 per cent. iodipin internally.

Case V.—A hereditary syphilitic, who had undergone mercurial and iodide treatment, presented ulcerated gummata on both thighs. In all 8 oz. of 25 per cent. iodipin were given her hypodermically. Complete cure in ten days after the last injection.

Case VI.—Prostitute, with old lues. Shows infiltrations about the anus and vagina, as well as a recto-vaginal fistula. After three injections of about 1 dr. of the 25 per cent. iodipin acne appeared in the face, accompanied by headaches. Iodipin was suspended, to be resumed after the acne disappeared. Five new injections brought about the same symptoms, this time with a coryza. Iodipin discontinued. The infiltrations became considerably smaller. Patient previously showed symptoms of iodism after potassium iodide.

Case VII.—Patient had been infected ten years before. Was repeatedly treated for lancinating pains and marked ataxia. Both symptoms returned, and became very pronounced. Potassium iodide failed to give relief this time. At first 1 dr. of the 25 per cent. iodipin was given daily, increased to 2 dr. In all, fourteen injections were given. The pains are gone, she can sleep, use her hands again, and can see without spectacles. A transient acne appeared in the face during treatment.

Case VIII.—Patient had been infected eighteen years before. Had an apoplectic attack six years after. Comes now with ataxic and paretic symptoms. Four injections of 1 dr. and sixteen injections of 2 dr. of the 25 per cent. iodipin relieved him quickly of his recent symptoms.

It will be seen that iodipin was used in these cases under circumstances calling for potassium iodide. In secondary syphilis it was not tried. The cases show either com-

plete recovery (Cases I, III, IV, V) or considerable improvement. Iodism was noted in two cases. Most observers, however, have never seen disagreeable effects.

The technique of injection is as follows: The 25 per cent. iodipin is warmed before the injection, to make the fluid thinner. The syringe used holds 2½ dr. The injections are made into the skin of the back. The patients did not complain of pain. No infiltrations followed.

The author also cites a case treated by Prof. Kothe. A patient with syphilitic defect of the soft palate received 10 per cent. iodipin by the mouth, in doses of 2 dessert-spoonfuls daily; later 25 per cent. iodipin was used. Marked amelioration resulted and no untoward effects made their appearance. Thus iodipin is worthy of further trial in syphilis. It is a welcome substitute for potassium iodide and other iodides when these prove disappointing. It frequently acts more promptly and more satisfactorily than the iodides.

#### TREATMENT OF ASTHMA IN CHILDREN

Kissel<sup>1</sup> reports a number of cases of bronchial asthma in children aged from six to fifteen years. He obtained excellent results from sodium iodide, first recommended by Trousseau. Not only the individual symptoms, but the general condition as well improved markedly under this treatment.

#### SALTS OF CACODYLIC ACID IN DERMATOLOGY

Arsenic is the most widely used internal remedy in dermatology, and undoubtedly the most valuable. One great drawback is, however, attached to it—the frequent intolerance of the patients. Fowler's solution, owing to its strong alkalinity, deranges the digestive function. Sodium arsenate, arsenous acid, and other preparations have their particular disadvantages. The rectal and subcutaneous administration have been tried, but with unsatisfactory results.

In quite recent times an attempt has been made with organic compounds of arsenic, chiefly cacodylic acid and its salts. These products, while containing a large percentage of arsenic, are almost perfectly exempt from any harmful action. Cacodylic acid contains about 54 per cent. of arsenic, thus being equal to 72 per cent. of arsenous acid, and in the form of sodium cacodylate can be administered in considerable doses without producing unpleasant results.

Cacodylic acid was employed in various skin diseases: psoriasis, acne, lupus, sarco-

<sup>1</sup> *Therap. Monatsh.*, XIV, No. 8.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 10.

matous and tuberculous affections, etc. The drug may be given by the mouth, although the subcutaneous method is more effectual. The disadvantages are the garlicky odor of the breath, terribly offensive stools, intestinal colic, and, occasionally, dermatitis and neuritis.

Dr. Edmund Saalfeld<sup>1</sup> says that he was the first to introduce the remedy in Germany—in dermatological practice. [This, by the way, is quite incorrect; several other authors have published reports before Dr. Saalfeld.—EDITOR.] He employed pills of sodium cacodylate, giving four of them daily, of about  $\frac{1}{3}$  grm. each. Besides, he also uses pills of iron cacodylate in the same dosage. Both are equally suitable for subcutaneous administration, 1 Cc. of a 5-per-cent. solution being given daily.

The author found the new preparations to be very well tolerated.

Toxic phenomena were hardly ever recorded. The disagreeable garlicky odor appeared only in some of the patients who took the drug internally. No odor could be noticed after rectal or hypodermic administration. Patients who had not tolerated arsenous acid did well on the cacodylic preparations.

Thus the new compounds are to be considered as valuable additions to our arsenic therapy, making possible both the subcutaneous exhibition of arsenic, and, in the form of iron cacodylate, the simultaneous administration of iron and arsenic, a combination which is very serviceable in treating chlorotic patients.

#### LEVICO WATER IN PSORIASIS

At a meeting of the Dermatological Society of Vienna, Dr. Steiner<sup>2</sup> presented a male patient, thirty-eight years old, who had been suffering with psoriasis for nine years. He had been treated in different hospitals with tar, pyrogallol acid, and arsenic, with but little success. He had constant relapses. Four weeks prior to his presentation to the society, he came to the author with an acute attack. A hypodermic injection of half a syringe of boiled Levico water, in the dorsal region, was administered. On the third day, a syringe of water was injected; on the fifth day, 2 syringes; on the tenth day, 3 syringes, etc. In all, the patient received twenty-two injections. There was continuous amelioration, and at the time of presentation the previous diseased skin presented only slight pigmentation. The injections of Levico

water are easily made, act rapidly, and gastric disturbance is avoided. In therapeutic action, Levico water is very much like the cacodylates. The sulphur which it contains in combination is also an advantage, as it undoubtedly exerts a vaso-constrictor influence.

#### TREATMENT OF ANOREXIA BY THE AID OF COLD

An original method of treating anorexia has been introduced by Letule and Ribaud<sup>1</sup>; they call the method cryo-therapy (from kryos, frost) and it consists in bringing the gastric region under the influence of very low temperatures.

To produce sufficiently low temperatures, liquid carbonic acid has been employed. A coagulated snow-white mass of carbonic acid is inclosed in a bag and applied to the stomach region. No pain or discomfort is experienced. The snow evaporates very slowly. The application may be made twice daily, about half an hour before meals. The favorable results will usually be noted after four to five days of this treatment. The improvement of appetite is marked and permanent and is a high recommendation for the method. The authors employ it extensively in consumptives.

#### DIURETICS IN KIDNEY DISEASE

Diuretics, says Dr. R. Elliott,<sup>2</sup> are of little value in removing effusions, such as ascites or hydrothorax. Their chief aim is to maintain the renal function, dilute the urine, and relieve edema.

According to their mode of action, diuretics may be grouped in three classes: those which act upon the blood, those acting upon the circulation, and those acting on the tubules of the kidney. The vegetable salt of potassium, and the salts of sodium, strontium and lithium belong to the first class. Digitalis is a typical representative of the second class, and squill, juniper, cubebs, etc., belong to the third class.

It will be seen that the irritant diuretics have no place in inflammatory diseases of the kidneys. Here the second class of diuretics, which act by raising blood-pressure and producing vasodilation, is indicated.

It may be said, generally, that toxic medicines should be used with great caution whenever the renal function is impaired. This applies especially to our cardiovascular diuretics and calomel.

Another point to be borne in mind is the antagonism between the skin and the kidneys. After administering a diuretic, the patient should, as a rule, be kept cool, other-

<sup>1</sup> *Therap. Monatsh.*, xv, No. 6.

<sup>2</sup> *Rev. de Thérap.*, Sept. 1, 1901. \*

<sup>1</sup> *Klin.-therap. Woch.*, viii, No. 21.

<sup>2</sup> *Med. News*, LXXIX, No. 6.

wise the medicine may act as a diaphoretic. Diuretics are indicated in organic and functional renal disorders.

In functional derangements nothing is better than diluents and the saline diuretics. The author thinks that Americans do not drink enough water, and the value of that popular remedy, lithia water, depends largely on the consumption of water. However, even here excesses are to be avoided.

As to the employment of diuretics in the various forms of nephritis, the author deprecates the habit of prescribing diuretic medicines as a routine measure without due regard to the indications. In acute nephritis with dropsy and oliguria, the free use of water is to be advised, and perhaps a vegetable salt of potassium administered. Should nausea and vomiting appear, the diuretic must be withheld. When uremia is impending, a subcutaneous normal saline solution should be injected without delay. No other measure will produce such copious diuresis. High enemata of hot saline solutions may be given instead, but they are not so effectual.

In chronic nephritis with a dilated heart and lowered blood-pressure, cardiac tonics (digitalis, strophanthus, caffeine, etc.) are indicated. In dropsy of purely renal origin diuretics are useless, as is the case in acute nephritis. On the other hand, in dropsy of cardiac origin they exert a favorable influence. However, even here they are not to be employed indiscriminately. When the renal impermeability is far advanced, the influence of digitalis and other diuretics is very doubtful.

One word as to calomel. This remedy exerts remarkable effect in conditions of renal engorgement, and may be given in combination with squill and digitalis. The diuretic influence of calomel and blue mass is indirect, and due probably to their action on the liver, resulting in the formation of diuretic substances.

#### DIONIN IN WHOOPING-COUGH

Dr. Gottschalk<sup>1</sup> employed dionin (ethylmorphine hydrochlorate) in fifty-two cases of pertussis. In no case was any effect noticed as far as the duration of the disease is concerned, but in a number of cases there was a distinct diminution in the severity and number of attacks. He experimented carefully with the dosage of the drug, so as to determine the proper dose for the various ages—a dose which would produce a sedative but not a hypnotic effect—and the following are the results: For a child at about the end of the first year,  $\frac{1}{120}$  grn. every

three hours; between one and two years,  $\frac{1}{60}$  grn. every three hours; between two and four years,  $\frac{1}{40}$  to  $\frac{1}{30}$  grn. every three hours; between five and eight years,  $\frac{1}{30}$  to  $\frac{1}{15}$  grn. every three hours. These doses have by experience been found to be right; still, mothers must be warned to at once diminish the dose, if the child shows signs of somnolence.

#### PRURITUS AND FISSURES OF THE ANUS

Dr. W. C. Black<sup>1</sup> writes that he found the following treatment successful in severe cases of pruritus ani, especially those complicated with fissures. The sphincter ani is stretched until there is complete relaxation, and the mucous membrane within the sphincter is painted with ichthylol and glycerin, equal parts. This has proved in his hands more successful than any other remedy or method that has ever been recommended. Lately he has had almost as much success with ichthylol alone injected just within the sphincter, in full strength, twice or three times a day.

#### ICHTHARGAN IN GLEET

Dr. Rietema<sup>2</sup> has employed ichthargan in a number of cases of chronic gleet, characterized by a drop of secretion in the morning and the presence of threads in the urine. He used it by irrigation in solution of 1:10,000 to 1:5,000 according to the method of Janet. The results were excellent. In some cases he used it by instillation in 2 per cent. strength.

#### THE THERAPEUTICS OF HEART-DISEASE

Notwithstanding the recent progress in cardiac therapeutics, the tendency seems to be against special remedies for special affections. This applies especially to valvular affections. Less importance is now attached to abnormal sounds than formerly, and more consideration paid to the condition of the cardiac muscle, etc.

Dr. Thomas Satterthwaite<sup>3</sup> makes the following statements, which will be indorsed by many who have had experience in treating heart disease:

The gravity of a valvular lesion is not always measured by the intensity of the murmur. The latter may be loud and still not incompatible with an average duration of life, while, on the other hand, a valve may be almost obstructed, as in mitral stenosis, and give no murmur at all.

Single valve lesions are the exception, not the rule. A loud murmur in recent

<sup>1</sup> *Med. Summary*, Oct., 1901, p. 252.

<sup>2</sup> *Monats. f. Prakt. Dermatol.*, 1901, No. 1.

<sup>3</sup> *Med. News*, LXXIX, No. 6.

<sup>1</sup> *Aerzt. Rundschau*, 1901, No. 31.

endocarditis may mask an older and more serious lesion. Obstruction of a valve is usually associated with insufficiency. The differentiation between a functional and an organic murmur is sometimes difficult.

These remarks will suffice to show the insufficiency of auscultation alone. It is vitally important to determine whether the affection is acute or not, the presence or absence of hypertrophy or dilatation, the character of the pulse, and the signs indicative of complications in other organs.

To give digitalis only because the pulse is 120 or a loud murmur is audible, is to do possible harm, and absolutely no good. Our newer methods of treatment comprise rest, alternating with bodily activity; determination of blood to the periphery, and a carefully regulated diet.

Complete and enforced prolonged rest has its serious drawbacks, and as soon as the immediate danger from any grave heart-disease is past, active or passive bodily movements are advisable.

As to drug treatment, the author recommends strychnine as a heart tonic. Large doses are to be avoided as a rule,  $\frac{1}{60}$  to  $\frac{1}{40}$  grn. being sufficient. Arsenic acts somewhat similarly and may be combined with iron. In myocardial diseases the author has found *cereus grandiflorus* useful, in doses of 1 to 2 min. of the fluid extract. Laxatives are essential in the treatment of chronic heart disease.

Of the various cardiac sedatives, the author employs valerian, zinc bromide, and aconite. Monobromated camphor is another excellent remedy to quiet a neurotic heart. For severe attacks of dyspnea, nitroglycerin is the best remedy, in doses of  $\frac{1}{150}$  to  $\frac{1}{50}$  grn.

Digitalis should not be used indiscriminately. It is a double-edged remedy and may do great harm. The active principle, digitalin, may be given instead, and the author has of late confined himself to Merck's digitalin in using digitalis. He gives the drug chiefly in special complications, as urinary suppression, relying on its diuretic effect. Strophanthus and convallaria majalis are similar in action to digitalis, as is also adonis vernalis. All these cardiac stimulants require great caution in their employment, and should be reserved for emergencies, such as renal or hepatic complications, or when we are merely endeavoring to prolong life.

#### CALCIUM CHLORIDE FOR MENORRHAGIA

Dr. Lafond<sup>1</sup> prescribes calcium chloride in daily amounts of from 24 to 30 grn. per

os, administered according to the following formula:

Calicum Chloride.....	130	grn.
Syrup.....	8	oz.
Water.....	6	oz.

A tablespoonful of this mixture twice a day for about eight days. It is useful, also, to take the mixture for about a week before the expected period. The pills of Dalché, the formula for which follows, may be taken at the same time for three or four days before the period and continued throughout the flow.

Ergotin.....	1 ½	grn.
Quinine Sulphate.....	1/8	grn.
Powd. Digitalis.....	1/8	grn.
Powd. Cola.....	1	grn.

To make one pill.

One such pill three times a day.

#### TREATMENT OF DEEP-SEATED INFLAMMATIONS

Dr. Walter T. Slevin<sup>1</sup> states that after experimenting with different formulæ he at last obtained one which, if properly used, will relieve deep-seated as well as superficial inflammations.

The formula is as follows:

Ichthyol.....	45	grn.
Lead Iodide.....	45	grn.
Ammonium Chloride.....	10	grn.
Petrolatum.....	to make	1 oz.

The substitution of glycerin, rose ointment, or cacao-butter does not alter its efficiency. It should be applied by rubbing upon the inflamed parts. The results of the application in three different cases are described by the author.

Case I.—James F., aged twenty-one years, had a marked swelling on both sides of face, involving the nose and extending to the eyes, with high fever, great prostration, and partial delirium. Diagnosis: Erysipelas. Treatment: Had the preparation rubbed into site of inflammation every hour; subsidence of the condition in twenty-four hours.

Case II.—Mary McN., aged thirty years, had a large swelling on left side of the face, involving the glands of face and neck; could not open the mouth; high fever; dyspnea; dysphagia, and appearance of impending death. The swelling was very hard and tense; therefore to incise it would have been futile. Diagnosis: Circumtonsillar abscess (quinsy sore throat). Treatment: Application of the preparation every hour, with cure in twelve hours.

Case III.—John C., aged six months; râles over both sides of the chest; bronchial breathing; bronchophony and slight dyspnea. Diagnosis: Bronchopneumonia. Treatment: The preparation was rubbed into chest, and all symptoms disappeared on the following day.

It seems to the author that this formula should be most effective when used in chronic conditions, inflammations, glandular enlargements, and ulcerations, whether of specific nature or otherwise, as it is a great aid to absorption, and he hopes that the profession will give it a trial.

<sup>1</sup> Jour. de Méd. de Paris, Aug. 4, 1901.

<sup>1</sup> N. Y. Med. Jour., LXXIII, No. 10.

# MERCK'S ARCHIVES

## MATERIA MEDICA or DRUG THERAPY

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NOVEMBER, 1901

It seems but yesterday that the seventieth birthday of the grand master of medicine, Rudolph Virchow, was celebrated throughout the world. Still, a full decennium has flown by and a few days ago the master's eightieth birthday was the occasion of such homage as the medical world has never witnessed before. Every civilized country on the globe, without exception, took part in the celebration. At numerous dinners, the Jubilar's name was toasted and his scientific attainments and humanitarian efforts recited. Telegrams of congratulation reached him by the thousand from every nook and corner of the globe, while many countries sent most distinguished delegations to Berlin to take part in the unique jubilee. Many journals issued special jubilee numbers devoted to Virchow and his work. Thus, the contents of the *Berliner klinische Wochenschrift* for October 14 are as follows:

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It opens with an address in most beautiful Latin, which Dr. Guido Bacelli, Minister of Agriculture in Italy, delivered at the Virchow Celebration in Berlin, and a translation of which will be found in our Miscellaneous columns. Next follows a paper by Prof. Weichselbaum and Prof. Zuckercandl, of Vienna, on Virchow and His Influence on the Development of Pathological Anatomy, Public Health and Anthropology in Austria; next, a paper in French, by Prof. Cornil of Paris, entitled *Souvenirs d'Autrefois*—Old-time Reminiscences—referring to the time which he spent as a student of Virchow in 1862; then comes a paper in English, by Prof. Pye-Smith, on Virchow and His Influence on Pathology in England; next a paper on Virchow's Influence

on Medicine in the Netherlands, by Prof. Stokvis, of Amsterdam; next is a paper on Virchow and Russian Medicine, by Prof. W. Schervinsky, of Moscow; next, on Virchow and Swedish Pathology, by Prof. C. Sundberg, of Stockholm; next on Virchow and Danish Medicine, by Prof. Salomonsen, of Copenhagen; then a brief paper on Virchow and Greek Medicine, by Prof. T. Karamitzos, of Athens; then a paper by our A. Jacobi, on Virchow and American Medicine; the concluding paper is a description of the Pathological Museum of the University of Berlin, by Prof. Oscar Israel.

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THE celebration itself in Berlin beggars description, so grand and unique was it. As Sir Felix Semon, who together with Lord Lister and Watson Cheyne was with the delegation from England, says: "From beginning to end it was so extraordinary that as yet but three things stand out prominently from the kaleidoscopic impressions which overwhelmed us: the conviction that surely never before had a richer life been lived than Virchow's; the joy and gladness that on the evening of such a life the achievements of this unique man are universally acknowledged without a single dissentient voice being heard; the thankfulness that such a man should have been spared to the world in such astonishing vigor of mind and body as this Grand Old Man of Science."

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To attempt in a few lines or pages to touch upon the many-sided genius of Rudolph Virchow would be presumption indeed. For, as it has been said many times before, he who would undertake the task of presenting a complete picture of the life and work of Rudolph Virchow must be a genius approaching in universality Virchow himself.

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ONE fact, though, it is well to bear in mind. As great a scientist as is Rudolph Virchow, he is just as great as a lover of man. In spite of his colossal, almost superhuman labors in the various fields of science, he always found time to fight wrong, to resist abuse and to defend the weak and oppressed. And when his earthly career is drawing to a close—may he be spared to us for many years yet to come!—well will he be able to say, with another good man: "My lamp is burning low; may I hope that it has burned for the benefit of my fellow men!"

Those who know of the man and his work will all agree that it has.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

### Treatment of Scabies

Dr. G. W. G. asks whether we know of some special preparation, which could be recommended as a specific for scabies or the itch.

We do not think there is any need of special preparations for scabies, as there are a number of formulæ, which are very efficient. The following two are decidedly so:

(1)	Naphtol.....	1	dr.
	Sublimed Sulphur.....	1	oz.
	Potassium Carbonate.....	2	dr.
	Balsam Peru.....	4	dr.
	Wool-fat.....	1	oz.
	Petrolatum.....	2	oz.
(2)	Ichthyol.....	4	dr.
	Balsam Peru.....	4	dr.
	Sublimed Sulphur.....	1	oz.
	Potassium Carbonate.....	1	dr.
	Lard.....	4	oz.

The *management* of the case is important. Simply applying the ointment will often fail. The proper way is as follows: The patient is *thoroughly* rubbed with green soap, and this is allowed to stay on for one hour, or at least half an hour. The patient then takes a hot bath of about thirty minutes' duration, during which time the body is rubbed by an attendant with sublimed sulphur. After the bath, either of the above ointments is thoroughly applied by inunction. The patient is then wrapped in a sheet, and the ointment is left on over night. In the morning a cleansing bath is taken. If every stage of the treatment is properly performed, the disease is generally cured completely in one night. In very obstinate or neglected cases, where the burrows dug by the acaries are very deep and devious, a repetition of the treatment may be necessary. The underwear should be destroyed and the clothing thoroughly sterilized.

### A Safe and Effective Depilatory

Dr. H. L.—Do you know of a preparation that will destroy the hair without harming the skin? I saw two advertisements—Dissolvène and De Miracle. Do you know something about them? Are they really so good and harmless as is claimed?

We are familiar with the names mentioned and the advertisements, but not with the actual properties of the above two preparations. A properly made paste, however,

of calcium sulphhydrate answers all requirements and is free from any deleterious influence on the skin. It was originally recommended by Raybaud, and then used and very favorably reported on by Dr. Ch. G. Cumstom. The formula for making the paste and the directions for using it are as follows: Take 2 parts of freshly-slaked lime, from which all the gritty particles have been removed, and mix with 3 parts of water. Through this mixture pass a stream of sulphuretted hydrogen; a pasty mixture of a bluish-green color is obtained, having a slight odor of sulphuretted hydrogen; it is not in the least caustic, and may be handled without fear. It should be kept in wide-mouthed, brown-glass bottles, well corked, as the carbon dioxide of the air decomposes it readily. The way to apply it is by spreading a thin layer with a spatula or spoon-handle. If the hair is very long, it may be clipped off with the scissors first. The paste is left on for five minutes, and then with tepid water and a towel it is removed by gentle friction. The skin will then be found to be completely free from any trace of hair and better shaven than by the sharpest razor. The paste is absolutely devoid of irritating properties. It should not be touched with hands wet with bichloride, as the hands will get black from the formation of the black mercuric sulphide.

### Testing Urine for Carbolic Acid

Dr. E. E. asks for a test for carbolic acid in the urine.

The most delicate method of testing urine for carbolic acid is to distil the urine and apply the tests to the distillate. One of the tests consists of the addition of bromine water, when a white precipitate will make its appearance, if carbolic acid be present. The precipitate is tri-brom-phenol ( $C_6H_2Br_3OH$ ). Another test consists of the addition of a solution of ferric chloride, and the mixture assumes a violet-blue color. This test may be applied to the urine itself, but the results are not so delicate and positive. With Millon's reagent, which is made by dissolving mercury in an equal weight of fuming nitric acid (sp. gr. 1.4), applying moderate heat and diluting the solution with 2 volumes of water, urine containing carbolic acid gives a cherry-red color, on being warmed. Another indication of the presence of carbolic acid in the urine is found in the color of the latter when it has been exposed to the air for a short time. It generally has a dark and smoky appearance. When the quantity of phenol is too small, the color may not be distinct enough to be noticed.

### Treatment of Cataract

Dr. J. A. E. R.—Can you inform me of some reliable medication that will absorb, remove, or prevent the further progress of incipient cataract; a remedy harmless to the eyes? My wife is the patient, and we, of course, greatly desire to abort the disease, if possible. I have given atropine and potassium iodide, and also juice of cinerea maritima, with no favorable results.

We regret to say that we do not know of any remedy which can be relied upon to absorb or prevent cataract. Every now and then a remedy is introduced, with the claim that it possesses such properties. More extensive experience, however, generally shows the claims to be exaggerated and the remedy falls into disuse. We would, however, suggest the use of thiosinamine, which has been reported on favorably by several physicians. Very recently Dr. H. G. Sherman reported to the Cleveland Medical Society a series of cases in which remarkable improvement followed the use of thiosinamine in corneal opacity, and strongly recommended its use in such cases. He gave the drug per os in 1 grn. doses several times daily.

### Erratum

Dr. L. A. F.—On p. 402 of your October number you give a formula for a mixture to be used for treating the naso-pharynx in scarlet fever. Do you mean drops when you say dr., or drams? If you mean drops, you are short on tincture of iodine, and if you mean drams you are long on carbolic acid. I should be afraid to give 10 to 15 drops of carbolic acid every hour to a child, and on the other hand  $\frac{1}{4}$  of a drop of tincture of iodine would be a very insignificant dose.

In the formula you refer to there is a typographical error: the "dr." in tincture of iodine means dram, while in the carbolic acid it stands for drops. In the latter case it is an unwarrantable abbreviation, made by the printer.

J. P.—Has iodoform ever been recommended for cirrhosis of the liver?

Bartholow is the only authority we know of who recommends iodoform in that disease. He ordered it in small doses for very long periods.

J. B. J.—The chemical difference between apocodeine and codeine is the same as between apomorphine and morphine. Apomorphine is morphine minus one molecule of water:  $C_{17}H_{19}NO_3 - H_2O = C_{17}H_{17}NO_3$ .  

Morphine	Water	Apomorphine
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 Apocodeine is codeine minus one molecule of water:  $C_{18}H_{21}NO_3 - H_2O = C_{18}H_{19}NO_3$ .  

Codeine	Water	Apocodeine
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 But while the difference in the chemical

constitution is apparently slight, the physiological and therapeutic properties are quite distinct.

Apomorphine, as is well known to all, is one of our most efficient emetics, a property entirely foreign to morphine; while apocodeine increases the salivary and bronchial secretion and acts as a laxative—properties diametrically opposed to those of codeine and the other opium derivatives.

### Formula for Asthma

Dr. S. G. L. writes: Will you kindly give me a little aid on the following? Patient, man 35, has asthma. I have been giving him the following mixture, but no matter how I fix it, it upsets his stomach. Can you help me to make the mixture more palatable?

Pot. Iodid.....	grs. iv
Pot. Bromide.....	grs. v
Spts. Etheris Comp.....	℥ v
Fl. Ext. Belladonna.....	℥ ss
Fl. Ext. Lobelia.....	℥ vi
Fl. Ext. Grindelia.....	℥ v
Syr. Licorice.....	q. s. 3 i

In the prescription you submit, practically all the ingredients are of a nature likely to upset the stomach; when combined in one mixture the tendency is of course intensified. The syrup of licorice is not a suitable vehicle for such a combination; a better one would be one of the following: Glycerin and simple elixir (1 part of the former to 3 of the latter), syrup of raspberry and simple elixir, syrup of yerba santa with some oil of bitter almond, or syrup of wild cherry. But in any case the mixture will not be very acceptable to the stomach, and we would therefore suggest the omission of the potassium salts, especially of the potassium iodide. The latter is of great value in asthma, but only as a constitutional remedy; it should be given in the intervals of the attacks, as a prophylactic; its immediate effect in cutting short an attack is slight or nil.

In MERCK'S ARCHIVES for May there was published a formula for asthma, which is being used with excellent effects. It is as follows:

Morphine Sulphate.....	1 grn.
Spirit Glonoin.....	16 min.
Comp. Spirit Ether.....	½ fl. oz.

Dose. Twenty drops to one teaspoonful, according to the severity of the case. May be repeated in one hour if necessary.

In the constitutional treatment of asthma, potassium iodide and the other iodides may be advantageously replaced by iodipin (dose: a teaspoonful to a tablespoonful 3 times a day). It has been reported by many physicians to be superior to the iodides and to be free from any irritating properties whatever.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

**Mental Therapeutics.**—The subject of mental therapeutics occupies quite a good deal of attention at the hands of our profession to-day. Quite a long and valuable article is contributed to the *Southern California Practitioner* by Norman Bridge upon this subject. In his closing remarks he says:

A certain new few cardinal things are, I believe, necessary to be done in the care and culture of the people, and they are mental and moral mostly.

1. We must lessen the emotional attentions to infants. These wear out the brain energy and produce erethism that may last through life. Almost any infant can, in three months, be developed into an autocrat, and many of them have before the end of the first year, true neurasthenia resulting from these influences.

2. As far as possible we ought to let the children alone, and stop the common incessant effort to entertain them. The effort continues the vicious effects of too much emotional attention in infancy. Let them entertain themselves; this will develop their minds and rest their emotions. We must observe them and talk about them in their presence less. Otherwise we are sure to provoke a series of most vicious emotions that grow into habits that influence them in a bad direction through life. Fairy tales and fairy talk are unwholesome. The average child already has too much imagination; it is a beautiful thing, but it is not necessary to increase it. There are difficulties with these rules for infants and children. Two motives actuate parents and children alike. The first is to make and have the children happy and pleasant now. The reflex effect on their elders is sweet; we like a happy child, and like to make a child happy. Thus we and the child conspire to the same end. The second motive is to make sure that if possible the career of the child shall be long and successful. Both emotions are for the rising individual as we understand it, the one for the now, and the other for the future. Is it any wonder that we should generally sacrifice the future for the present? The child is incapable of foregoing a present pleasure for a future good, and the parents are too ready to agree not to count this day's indulgence when they know its ulterior effect is bad. The mother carries the child for hours to get it to sleep, not because it is necessary, but because it likes to be carried and refuses to sleep without it. She says the baby will not go to sleep otherwise, but if she thinks she knows this to be a tender-hearted fiction, her fault is lack of courage to break the habit. As the child gets older and begins to acquire habits that she fears may make him inelegant or impolite she has no hesitation in working for his future and she will drill him by the hour and worry by the day about his manners (that at fifteen he would spontaneously correct) and let him go on with nervous injuries that will last him through life. Parents think it a terrible thing if their boys smoke cigarettes, but they have allowed habits of the nervous system from babyhood up that are even worse for the future of a boy than smoking cigarettes in his teens. Parents who have perpetually entertained, coddled, and diverted their children, who have jumped to their call as to the command of a superior being, are by logic and nature estopped from objecting to cigarettes, coffee, wine or late

hours, when they pass into youth and would still gratify their desires for all sorts of stimulating amusements. None of these sins against nature is so great as those that have been earlier fostered and encouraged. Indeed, had their earlier sins never been committed many of these later indulgences would not be sought. The exaltation due to the earlier mistakes cannot be ignored in later life.

Parents plead that their children ought to be obedient and self-denying as to indulgences that harm, because they, the parents, have been good to them in their infancy and childhood, have found amusements and pleasures for them, and denied them little or nothing of joy. This is the very gist of the sin they have committed. If the emotional propensities of the children had received as much tranquil rest as their muscles did, their brains would have grown up with more normal demands and with better resisting power.

3. We ought to stop making young ladies and gentlemen out of children. To push them into responsible social life, as early as is the rule in the best social stratum, is to develop emotion and cares, and subject them to tests and temptations that ought to be postponed for years. And the only justification we have for it is our and their unwholesome pleasure in all, and their hoped for salvation from diffidence later. The truth is that the diffidence is an advantage and ought to be encouraged rather than otherwise.

4. We ought to minify the emotional struggles at school as far as possible. The strife for supremacy, the fear of failure, the envy and jealousy of others, constitute one of the most wearing tendencies on the brains of the young. Not all, by any means, but many of the school children suffer in this way. It is a duty to find out the ones most being harmed and worked for their lives.

5. An increase of the out-door, athletic lives of the people as a whole would be one of the greatest gains of all. In-door life keeps us below the par physiological, and to raise the standard of the system as a whole of course helps the brains.

To reduce and repress the unhappy emotions that are engendered by the struggle to shine in society and in business, is one of the urgent needs, and hardest services to render. These emotions are envy, jealousy, fear of failure, sense of danger to our pride, all of which are wearing and depressing. This is the school experience carried into adult life; and with all its ramifications it does incalculable harm to the cerebral resisting power. To reduce the struggle itself as well as its bad emotions is quite as important. This ardor to do the duties that society and business seem to impose on us (and beyond the getting of bread), is not the whole cause of nervous overwork among men and women, but it is a very large influence in that direction.

When a woman gets neurasthenia from so-called nervous overwork, the chances are six in ten that the excess of work was a demand of some sort of social function, and was by the highest ethics unnecessary. With men the percentage is only a little less.

7. Less dress-parade in our lives is necessary. Reduce the everlasting dressing of our bodies, houses, tables and equipages. It all becomes a bug-bear to the tired-out brain, and it tires the brain. It is what makes women say they feel like going crazy to think of packing their trunks for a trip to a fashionable resort, and it makes some of them really crazy. Such parade is a silly demand that our conceit and envy makes upon us, to the worry of the tired brains.

8. It is merely a truism to say that people who



are carrying mind and body loads that are too heavy should have them lightened. If the load is apparently necessary and free from the vice of bad emotions, the rest is as truly necessary. Rest and change are demanded. These influences shift the bearings; take off the pressure from parts and powers that are tired, and put into exercise faculties that have been dormant, so that the man as a whole is brought up, his brain and body are refreshed, and mental wreck is fought off.

It is the influences that I have condemned, that make the apparently inevitable revolutions of the wheel of society. It is a spectacle that the old world has furnished, only in a lesser degree, again and again. Many resourceful American families eventually go to the wall in the greater world influences, while their places are taken by people who have come up from humbler beginnings. The rise to power of these is due to the fact that they have suffered less injury from the emotions that grind and wear out the nerve force. They have lived simpler lives nearer to nature, and have been moved by ambitions that are less carking and unwholesome.

This continual revolution of the wheel is self-acting and wholly conservative for the world. The race and company fit to command usually in the long run come up to power. The lessening of grasp due to the dissipations incident to the use of power—the miscalculated rewards of power—causes its victims to drop out of the struggle and give place to those not belittled by such influences.

But must this debauchery of resources always go on? And is the revolution of the wheel inevitable?—*Charlotte Med. Jour.*

**Concerning Human "Vivisection."**—Under the above title has been issued a pamphlet containing the controversy between the American Humane Association and Dr. W. W. Keen, of Philadelphia. A leaflet with the caption, "Shall Science Do Murder?" published by the society, provoked Dr. Keen at his examination before a Senate committee to say that some of the experiments therein narrated were vague, indefinite, garbled or inaccurate. This assertion was challenged by James M. Brown, president of the Humane Association, and Dr. Keen thereupon defended his utterances in a letter of some length. In the circular now put forth there appears in addition a rejoinder with the official sanction of the society.

The phrase "human vivisection" is hardly a felicitous one since all sorts of experimentation upon human beings are included in the discussion. The chief features of the inciting leaflet were the accounts of Sanarelli's experiments with injection of the filtered culture of his yellow fever germ and Berkeley's use of thyroid extract in insane patients. Dr. Keen certainly establishes his contention that many of the assertions were "vague, indefinite, garbled or inaccurate." The official rebuttal of the Humane Association is carefully prepared, and is perhaps argumentatively correct in some of its particulars, yet there is a lawyer-like air about it that would not appeal to the disinterested reader. There is an obtrusive element of unhealthy sentimentalism and a sort of hot-house sympathy which is inimical to unbiased judgment.

Wrongs are perpetrated in medicine, no doubt, just as they are in law and theology. Evolution means experimentation; every growth means a sacrifice; but the attitude of the medical profession toward even its own interests is absolutely sane and disinterested. As a class it is opposed to experimentation without the consent of the subject and there is no cause for a reforming crusade.

Unquestionably no profession is more devoted to the greatest good for the greatest number than the medical fraternity, more regardless of selfish considerations, and attacks upon it are repugnant to common decency.

As a sort of appendix vermiformis the Association finishes its screed with a supplication which is hysterical and pharisaical and stupidly nonsensical. Thus:

"O, Divine justice! Thou that tarrying long, yet sleepest not nor slumberest, Power not ourselves, that makes for Righteousness—hear our prayer! For the sake of infants yet unborn, for whom some Menge or Schreiber in his laboratory waits—for the sake of innocent girlhood and sacred motherhood, not yet stretched upon the altar of a Godless science—for the sake of our poor, outraged, common humanity—grant that all who practise or uphold these deeds of shame, all who encourage and defend these criminals, may soon be touched with sincerest penitence, or meet some just and redeeming retribution—even though it come with keen, and bitter, and life-long remorse."—*St. Louis Med. Rev.*

**The Prospect of Cure in Cancer.**—Cancer is a disease chiefly of the grand climacteric, when youth has attained its old age and the organs especially pertaining to that epoch are beginning their decadence, so, with the lessening supply of the vital fluid to those parts whose function is no longer needed in the economy come diminished vitality and a more feeble resistance to adverse influences introduced from without. So beautifully harmonized is this decadence in general that there just remains sufficient vitality to maintain the negative energy of resistance, but not enough to produce the active energy of function until physiological atrophy is arrived at. So long as these two balance each other in the normal proportion of decadence the system is protected, but should anything cause a disturbance of the harmony those parts in which the equilibrium is upset become open to assault and invasion from without. It is not my object here to enter upon the causes that may disturb the balance.

Some remedies are designed to act against the *origo mali*, whatever that may be—plasmodium, zyme, or enzyme—and which will be determined eventually, but the great point in the treatment of cancer is to direct our attention to the natural forces inherent within the body.

It is a matter of common knowledge that the secreting power of cells can be influenced by the action of certain drugs acting on their protoplasm. Pilocarpine, for example, and arsenic have a beneficent action, but electricity alone is capable of directly and profoundly affecting the molecular changes that go on within the cells, of acting as a powerful tonic and restorative to the protoplasm itself whereby metabolism is promoted and resistance to adverse influences is greatly augmented. The immediate effect of this is to restore the lost equilibrium.

The term "electricity" comprises much, but the particular form of electricity only that affects cells so profoundly modified as are those of cancer is the current of high frequency and high potential discovered by Tesla and first introduced into therapeutics by d'Arsonval. It is now nearly two years ago (November, 1899) that I advocated the use of these currents in the treatment of pulmonary tuberculosis in combination with the open-air treatment. On account of the outbreak of the war in South Africa I was called away from pursuing further studies in that direction, but the successful results obtained by Mr. Chisholm Williams in forty-three cases of phthisis treated by him re-

cently by these currents are so clear that there can be no possible doubt in the mind of anyone who has observed the cases under this treatment that the protoplasms of the various cells of the body are marvelously vitalized and resuscitated, to the extent that they are once more able to repair the consequences of invasion and to resist attack. No doubt the leucocytes also are stimulated to secrete suitable alexines. I would wish to point out that the good effects of the Tesla currents are not limited to tuberculosis of the lungs only, but that if applied locally through a highly exhausted unipolar glass tube to tuberculous affections of joints and other parts a result equally satisfactory may be expected.

In cancer we may not have to deal with an invading microbe, yet it is evident that some malign source is at work whose influence the natural defensive powers of the body have become unable to resist, and it is only reasonable to infer from analogy that if these inherent powers could be re-vitalized to the extent that generally obtains in the equilibrium of health, as has been done in tuberculosis, then there is a definite prospect of a cure for that even more intractable disease cancer. If these inherent powers did not exist we should all fall victims, as it is unreasonable to suppose that we are not constantly exposed to the source of cancer just as we are to that of tuberculosis, of which we are now well aware.

Two cases have already been recorded, one in America and the other in the *British Medical Journal*, in which cancer has been arrested by means of the X-rays, and I am acquainted with a third in which the improvement has been marvelous; but the treatment has not been without its disadvantages, and I am very strongly of the opinion that it is not the ultra-violet or X-rays that produced the result, but that the real agent was the oscillatory violet rays which are generated at the same time as the former but are few in quantity and are masked by the greater quantity of the X-rays. With Tesla's currents, run from a solenoid resonator into a unipolar highly exhausted glass tube as used by Tesla, one finds an enormous number of these violet rays given off with a few X-rays—so few as to be a negligible quantity. Now, these violet rays, of tremendous speed of alternation from oscillation, amounting to millions per second, possess the advantage of being very easily applied, locally, to very small surfaces of the body—an advantage which is not possessed by the X-rays, as these need, for local application, a considerable arrangement of covering for the protection of adjacent parts, otherwise severe burns are probable. Also it is impossible to charge the body as a whole with the X-rays, a matter which is quite easy when the violet rays of the solenoid are used, whereby the protoplasm of the cells throughout the body is stimulated in its molecular action. It is well known to X-ray workers that after a little use a greater resistance is set up in the Crookes tube and that rays of a different character are produced; in fact, the rays emitted from a Crookes tube at different speeds of alternation, resistances, etc., are not yet thoroughly understood, or sifted for the different work expected from them.

It is quite probable that there is more than one cause of the various forms of cancer, and that this is the case I am inclined to think from the results of the yeast treatment in my hands, sometimes so efficacious in arresting this disease, at other times with little or no effect. Therefore I think it unwise to limit one's self to any one form of treatment, but I am of opinion that in these currents of high potential and exceeding frequency we have a means, hitherto unknown, of stimulating the vital

energy of cells and of enabling them to utilize, by taking into their protoplasm, auxiliary remedies of which hints have been given, and that sometimes one and sometimes another, when used in conjunction with these currents, will be found to be the particular one needed. The progress of my cases undergoing this treatment is already most encouraging.—Horace Manders, M.D., in *Lancet*.

**Diet in Pulmonary Tuberculosis.**—In the sanatorium treatment of this disease as carried out at the present time—and in German sanatoriums in particular—the practice is followed of stuffing patients with food. The results claimed by physicians in Germany in charge of these institutions have been so satisfactory that it has almost become an article of belief that such is the proper procedure.

From time to time, an American or British medical man has lifted up his voice in protest against carrying this method to the extreme, but his plea has been overborne as a rule by the mass of statistics which have been hurled promptly at his head by the upholders of the system. Once more, however, a physician has had the courage of his convictions, and undeterred by previous failures has boldly stated his opinion. Dr. Noel D. Bardswell of Sheffield, England, read a paper at the British Congress on Tuberculosis recently held in London, in which he declared that over-feeding in cases of pulmonary tuberculosis was a mistake, and further fortified his position by a narration of cases experimented upon, in proof of his contention.

During the autumn of last year, Dr. Goodbody of University College, London, undertook some exhaustive researches to test the effects of ordinary and forced feeding on the metabolism of tuberculous patients. The results briefly epitomized were: (1) Patients, unless closely supervised, did not eat a sufficient amount of food. (2) Patients in special sanatorium wards did excellently in every respect, judged both from a clinical and experimental standpoint. The diet in these wards was meat seven ounces, bacon two ounces, egg one, milk three pints, butter three ounces, bread seven ounces, sugar one ounce, pudding five ounces, vegetables six ounces, daily, divided into three meals. (3) Patients after taking this diet, when given a considerably larger quantity of food, did not give such satisfactory results. They gained weight at a greater rate, but in several cases with deterioration of general health, and laboratory results indicated deranged metabolism. Coincidentally with these experimental results, indicating deranged metabolism, the patients' condition from a clinical standpoint became less satisfactory, and anorexia and dyspeptic symptoms appeared.

The contrast to the bad effects produced by excess of proteid—the inclusion of very large quantities of fat in the diet—led to practically no diminution in the percentage absorption of fat. The observers for purposes of comparison then made similar experiments upon themselves, and noted rapid gain in weight, at the expense of general health. The derangement of health after three or four weeks of forced feeding was such that the experiments had to be stopped, as the observers were unable to go on with their ordinary avocations.

The results thus obtained from experiments are now being put into practice at a Scotch sanatorium. So far the results have shown that the very large diet often given in sanatoria is to a large extent unnecessary, and often harmful.—*Medical Record*.

## Correspondence

### Treatment for Gastric Vertigo

#### MERCK'S ARCHIVES:

I read with interest the letter from Dr. J. V. W. in the October ARCHIVES, asking for treatment for a case of supposed gastric vertigo. In my opinion the doctor's treatment was correct, but would suggest that lavage be tried every other day. The water should be warm and should contain about 2 drams of sodium bicarbonate and 20 min. of tincture of nux vomica. Intra-gastric electricity might prove very beneficial, both on account of the electricity and the "suggestion." I hope the doctor will try these methods, one or both, and let us hear of his success through the ARCHIVES. I also take this opportunity to say that for the general practitioner the ARCHIVES is the best and most helpful periodical of all the journals with which I am familiar.

N. H. ARMSTRONG, M.D.,  
Philadelphia, Pa.

#### MERCK'S ARCHIVES:

Concerning the case of gastric vertigo mentioned by Dr. J. V. W. in the October ARCHIVES, I would state that I had some years ago a similar case, and the following prescription worked nicely:

Tr. Calumbæ .....	3ss
Extr. Hydrastis Fld. ....	3ij
Ac. Hydrochlor. Dil. ....	3ij
Pepsini .....	3i
Sodii Chlor. ....	3i
Syr. Zingiberis,	
Glycerini, aa .....	3j
One dram t. i. d.	

DR. W. B. R., New York.

### Treatment of a Case of Pulmonary Tuberculosis

#### MERCK'S ARCHIVES:

I wish to report the following case, which may be of interest to your readers:

Albert W., aged twenty-four. No tubercular family history. Took severe cold January 7, 1901, with symptoms of influenza. Severe cough. Came to my office on January 12, with headache, sore throat, eructations of gas, and temperature of 103.5° F. Pulse, 92. Sent him home with orders to go to bed. Vocal fremitus increased on left side infraclavicular region; slight dulness. Accentuated systolic heart sound. Gave him at bed-time Dover's powder and phenacetin, and gargle for throat.

January 14.—Temperature, 102°; pulse, 94. Urine, sp. gr., 1.014. Albumen, a trace. Urea decreased. Cloudy sediment.

January 16.—Cough better, but expectorated greenish purulent material. Temperature, 101.34.

January 17.—Temperature, 102° F.; pulse, 90. Slept well. Cough better. Had been giving potassium citrate as a diuretic and heroin to control night-cough.

January 18 to 22.—Temperature, 102.5° F.; pulse, 86, regular and full.

January 22.—Examined sputum and found bacilli of tuberculosis in abundance. Had druggist send for thiocol, 1 oz.

January 23.—Temperature at 11:30 A. M., 101.5° F., and at 4 P. M., 104° F. Had patient sponged at 4:30 and at bed-time.

January 24.—Began with thiocol, 10 grn. q.i.d.

January 25.—Temperature reached 103.5°. Cough began to improve slightly. Sponge bath at 8 P. M.

January 26.—Temperature reached 103.5° F.; respiration, 15; pulse, 82.

February 1.—Temperature, 102°. Character of sputum changed from greenish and purulent to clear mucoid, and very much less in amount. Appetite improved; slept well; no night-sweats.

February 7.—Temperature, 100°. Another ounce of thiocol, prepared with syrup of orange peel. Only slight cough, and scarcely any sputum raised. No sweats. Appetite good. Chest expansion, 3 inches.

From this time on he gained in weight, color improved, and he began to sit up, his temperature running from 99° to 101°, daily. In a few days he was taking walks about the neighborhood and feeling well. He kept on using thiocol until he went home on March 5, since which time I've not had him in charge. He felt good when he left, having regained his usual weight, and only slight cough remained. I advised a change of climate at this time, but he could not afford it. In the above case the thiocol did all that could be expected of a respiratory antiseptic, and I believe if the patient could have gone to a more equable climate he would have made a complete recovery.

THOMAS FOSTER, M.D.,  
134 Linden avenue, Dayton, O.

### A Case of X-Ray Dermatitis

#### MERCK'S ARCHIVES:

I feel constrained to report an X-ray dermatitis which is under my care, not only because of the pitiful condition of the patient, but also because I have heard young graduates remark that they did not believe X-rays would cause a dermatitis. It seems incomprehensible that it should be necessary to warn any physician.

This patient, an Italian, aged thirty-five, was sent to the Lakeside Hospital of Chicago for diagnostic purposes. Two exposures were made at intervals of a few days. Twenty-one days after exposure an erythema nine by seven inches in area developed. Patient was informed that wound would grow progressively worse, and that in all probability it would be at its worst in five more weeks.

Prescribed ichthyol ointment, 10 per cent. Saw patient again in two weeks, when he was advised to return to the physicians instrumental in his trouble, and warned that in all likelihood he would be six more weeks getting well. Patient lost sight of until September 7, since which time he has been under my care.

The neuro dermatitis, which was originally 9 by 7 inches, of the third degree, is now 3½ by ¾ inches in area. Cannot induce patient to go to hospital for purpose of skin grafting, so he suffers from a chronic ulcer which is hyperesthetic to a very marked degree. A weak peroxide dressing will cause him to cry out with pain, and a wet boric-acid dressing cannot be endured. Am now using a dressing of cocaine oleate (1 per cent.), 1 dr.; carbolated camphor, 4 dr., and olive oil, 4 dr.; but still wound is the same, though this lotion gives him marked relief.

Fearing the continued use of the cocaine might prove detrimental, I endeavored to stop its use; but failed, as patient has prescription and refuses to discontinue its use.

Patient was exposed for periods of fifteen minutes to ninety minutes to a current from a mica-plate machine tube, removed the distance of two-fingers' breadth, as near as I can learn. Patient has retained eminent counsel and a suit for heavy damages will probably result.

G. F. NEWHALL, M.D.,  
811 W. Irving Park Blvd., Chicago, Ill.

### Stypticin in Chronic Gonorrhea

#### MERCK'S ARCHIVES:

Some time ago I wrote you asking if you had any clinical data regarding stypticin in gonorrheal troubles; also prostatic enlargements. In the first I have used it faithfully in those cases that have been treated for a long period with the ordinary gonorrheal remedies, and which still retain the hypersecretions, or "morning drop," as it is called. As a rule this class of cases is anemic, from the constant depleting with all kinds of balsams, etc.; also mental anxiety attending their condition. In this class of cases I have stopped all gonorrheal remedies, and put them on stypticin, 1 tablet three times a day, a half hour after meals; and, as an adjuvant, 5 grn. salicin three times a day before meals. The results have been more than I expected, being able to discharge the majority of this class of patients in from five to seven weeks. I have tried salicin, salol, etc., by themselves, but did not get the same results. In the first stages of the disease there is not much result, or none at all in fact, as far as I can discover. I have been hunting for an herb with an action similar to Ephedra antispythilitica, which I had seen used to great advantage in this class of cases throughout New Mexico, Colorado and Utah, and think I have found it in stypticin. If you have at any time any farther data, will you be kind enough to let me know? Have been treating from 2,000 to 3,000 cases of gonorrhea a year.

B. A. ROBINSON, M.D.,

265 Mulberry street, Newark, N. J.

[This is the first report that we have seen on the use of stypticin in chronic gonorrhea. So far all the reports have been on the value of stypticin as a hemostatic, in internal and in mucous hemorrhages, and as a uterine sedative. If any of our readers have had experience in other directions, we should like to hear from them.—Ed.]

### The Relation of Food to Mental Work.

#### MERCK'S ARCHIVES:

I think that the question of the relation of the quality and quantity of food ingested to the quality and quantity of mental work produced would form a very interesting subject of discussion. The enclosed editorial, taken from the *London Lancet* of recent date, could with profit be presented to readers of the ARCHIVES, as it touches upon some very interesting points. J. A. R., New York.

[We are pleased to publish the *Lancet's* editorial, to which attention is called by our correspondent, as follows:

#### RICH HEADS AND POOR DINNERS

In a passage of his "Confessions" descanting upon the nature of drunkenness, De Quincey concludes that the exact condition indicated is a question of accuracy in terms. He was assured on medical authority that a man could be, and had been, drunk upon a beef-steak. This is largely true, for even solid food may produce at any rate great mental torpor. The comfort of a good dinner may have suggested a writer's theme, we doubt whether it ever promptly stirred his pen. It is the empty stomach that best suits a full head and ideas that flow out freely before retire with the entry of a substantial repast. Oliver Wendell Holmes, with that charming blend of wit and scientific knowledge that gave the distinction to his writings, has discoursed upon this very point. He talks of the "bulbous-headed fellows steaming as they write" and shows how to meet the demands of thought and imagination. The brain must have more than its share of the circulating

blood. There must be no rival in the full liver or the actively digesting glands of the gastric mucous membrane. Do not eat heavily, then, if you are soon to think hard. Either your ideas or your dinner will be neglected and lie a sorry weight upon your head or your epigastrium. The poor half-starving poet is familiar to every one. We may mitigate our pity by reflecting that in many cases he would have been no poet if he had not starved. Enough fuel to sustain the fire of life is necessary for work, but heap on the coal and you will deaden the overburdened flame. The great thinkers, the great workers in any direction but a purely physical one, have for the most part been abstemious men. If not naturally of small appetite they have exercised constant restraint, grudging from the play of higher functions every moment and every energy spent upon the animal activities of their nature. Habit soon helps the fine effort of such people, and it becomes natural for them to eat less, to drink less, and to sleep less than their fellows. Thus, in a long life of intellectual activity, many scores of hours are utilized for the main purpose, which in the case of other men are squandered upon the dinner-table or in the mere nothingness of sleep or idling. Carlyle was justified in declaring a capacity for work to be the essence of genius. Whatever great man's life is read, no matter how brilliant his natural gifts, sooner or later he is found to have worked with unswerving constancy and imperishable devotion. Others as gifted have left no mark; it was in the will and the power to work that the genius asserted itself. It is common to hear a man say, "So-and-so is a genius; if he worked he could do anything." Just because he does not work "So-and-so" must be denied the title. In the natural sciences, and professions such as medicine that depend upon them, the inevitableness of great work for great achievement is perhaps, more obvious than in the service of art and literature. The artist and the writer of genius are gifted with inspirations falling to no man of mere talent, however hard he works. Yet even so the genius works to illustrate his inspiration, whether it is Raphael at his easel or Shakespeare at his desk, with a kind of frenzy of application and a continuous determination that are impossible to men not so endowed. Such labors of the will and of the brain demand at the time the whole energies of a human being. No lower member of the confederated body which is man must seek employment while the master parts are thus at work. So it is, then, that the little-eating worker blesses the world with fruits which the voluptuary and the gourmet may possibly enjoy at his well-fed ease, but can never hope in the least degree to emulate.]

#### MERCK'S ARCHIVES:

I desire to mention the extraordinary benefits obtained in a case of abnormally rapid heart action (tachycardia) with digitalin Merck, given in doses of  $\frac{1}{12}$  grn. at three-hour intervals. Two to three doses restored normal action, and this succeeded when every other drug had failed. I had for years been afraid of the active principles of digitalis, but since my experience with Digitalinum Germanicum, Merck, I feel safe and sure in treating this obstinate condition. I might add that I myself am the patient referred to in this case, and that I took digitalin at the suggestion and under the direction of Dr. Frank Woodbury of this city, to whose skill and knowledge I owe the relief obtained.

ELLERSLIE WALLACE, M.D.,

2014 Locust street, Philadelphia, Pa.

## Book Reviews

**DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD**, with chapters on the Diet and General Management of Children, and Massage in Pediatrics. By Louis Starr, M.D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Consulting Pediatricist to the Maternity Hospital, Philadelphia, etc. Ten years have passed since the appearance of the second edition of this work, and the advances made during that period have necessitated a practically complete rewriting of the book. Many new chapters have been added; for instance, on simple atrophy, infantile scorbutus, rickets, proctitis, and appendicitis. Great stress is laid throughout the book on general hygienic principles, dietetics, the regimen, etc.—points the importance of which in the life of the child cannot be overestimated. The purely medicinal part of treatment has, however, not been neglected; we have examined the formulæ carefully and find them well chosen and reliable. The whole subject of digestive troubles, and their immediate or remote sequelæ in infancy and childhood is treated with great completeness and thoroughness, and we unhesitatingly recommend the volume as a useful addition to any general practitioner's library. Everything relating to the typographical part of the book is above criticism. (P. Blakiston's Son & Co., Philadelphia. Illustrated. Price, \$3, net.)

It will well repay any physician, regardless of the school to which he may belong, to peruse Prof. William F. Waugh's **DISEASES OF THE RESPIRATORY ORGANS**. It is original, and the treatment frequently differs very materially from that laid down generally in the regular text-books. This is perhaps its greatest recommendation. We have hundreds of treatises of an identical style, as if they were cut on one pattern, advocating the same routine treatment, etc. If you have studied one, you have studied all. In this volume the reader cannot fail to perceive that the author has done some original work and some original thinking. The language is light and unconventional, the author apparently meaning what he says and saying what he means. It does strike one as rather strange not to see the mention of antitoxin in membranous croup; but this is a free country, the regular medical profession is not bound by any dogmas or tenets, and bows to no authorities, and if Dr. Waugh has obtained all the results that he could desire or expect with iodized lime and calcium sulphide, who shall say him "Nay"? The book is interleaved, so that the physician may make notes, jot down additional prescriptions that he may come across in reading his journals, etc. (The Clinic Publishing Company, Chicago. Price, \$1.)

**A MANUAL OF BACTERIOLOGY**. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology in the Medical Department of the University of Buffalo. A very useful manual for students and beginners. It is true there is no lack of most excellent text-books on bacteriology, books which treat the subject more deeply and comprehensively; still, as the author says, there is urgent need for presenting the necessary branches of medicine in as condensed a form as is consistent with a clear understanding of their great fundamental principles. And this object the book

before us fulfills well. The author himself does not claim that the book is anything more than a compilation, but the compilation is ably and intelligently executed. The language is clear and concise. The illustrations are satisfactory. (P. Blakiston's Son & Co., Philadelphia. Price, \$1.50 net.)

Three new volumes, or, rather "volumettes," of the Golden Rules Series are before us. This is a series of small booklets, of vest-pocket size, and about 60 to 100 pages, containing the most salient points of the various medical subjects. Of course, as might be expected, the subjects cannot be treated fully or in detail in such a small compass; still the booklets are useful as reminders. Points which are most frequently a source of danger to the practitioner are emphasized, the differential diagnosis is brought out prominently, and the treatment is touched upon briefly. No. IX. of this series gives us **GOLDEN RULES OF AURAL AND NASAL PRACTICE**, and is from the pen of Philip R. W. de Santi, F.R.C.S. No. X. contains **GOLDEN RULES OF HYGIENE**, and is by F. J. Waldo, M.A., M.D., D.P.H., etc. It treats of municipal and house sanitation, and not of personal hygiene. No. XI. treats of **DISEASES OF CHILDREN**, and is by George Carpenter, M.D., M.R.C.P., and the golden rules given in it are very good indeed. The treatment part is not satisfactory; for instance, arsenic is not even mentioned in cholera, and not a word is given on the treatment of whooping-cough, scarlet-fever, and influenza. (John Wright & Company, Bristol, England. Price, 25 cents.)

Sexual questions which are as a rule tabooed by the medical text-books and periodicals are discussed in **SEXUAL HYGIENE** with a frankness and freedom that would excite the ire and indignation of our great, noble and learned censor, Anthony Comstock. Still, there is nothing to become excited about. The purpose of the book is undoubtedly a worthy one, and as the book is intended for physicians only we see no reason for the necessity of mincing words. This book is not the work of one man, but is a compilation from articles published in the *Alkaloidal Clinic*, various books and other sources. The titles of some of the chapters will give a good idea of the scope of the volume: Sexual Frauds, Sexual Excess, Effects of Coitus during Pregnancy and Lactation, Sex Problems in Education, Affections of Male Sexual Organs Causing Impotence, Continence, Masturbation, Incomplete Intercourse, Frequency of Intercourse, Prevention of Conception, Posture, etc. We have no doubt that the book will find a large circle of readers and the physicians will peruse it with interest and benefit. (Clinic Publishing Co., Chicago. 269 pp. Price, \$1.)

**PHYSICIANS' POCKET ACCOUNT BOOK**. By J. J. Taylor, M.D. The advantages claimed for this book are: First, that it is the only single book system in the market; second, there being plenty of room for the full name of patients and description of the exact service, it will stand every legal test; that it enables the doctor to collect his account from a deceased patient's estate; it will enable the doctor's widow or executor to collect from debtors after the doctor's death; and it enables the doctor to prove his account in court against a debtor who disputes it. The case is of leather and the books are removable. (Medical Council, Philadelphia. Price, \$1.)

# MERCK'S ARCHIVES

OF

## MATERIA MEDICA <sup>AND</sup> DRUG THERAPY

A MONTHLY JOURNAL FOR THE PRACTICING PHYSICIAN

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### Is Iron Indicated in Anemia?

THE therapeutic iconoclast differs from the therapeutic nihilist in that, while the latter regards with withering contempt and would gladly consign to the bottom of the sea all drugs, without exception, the former directs his shafts or his battering ram against single drugs or methods of treatment. The iconoclast in medicine, as well as in politics, economics or religion, is essentially a sensationalist and the object of his attack is practically always a method of treatment that is well established, enjoys universal confidence, and is considered one of the "certainties" of therapeutics. The treatment of anemia and chlorosis with preparations of iron is a case in point.

The question propounded in the title of our editorial is of much broader and deeper significance than might at first glance appear to be the case. It is not a question of the treatment of anemia alone, it is a question affecting the very foundation of therapeutics in general. If a remedy that has been administered in a certain disease for over 2,000 years—and has been found beneficial in that disease by the laity, by the ordinary general practitioner, the great hospital clinician and teacher, and the laboratory worker—should be proved to be absolutely useless in that disease; if, as Kletzinsky expresses himself, "from all the hundredweights of iron that anemic patients have been swallowing for centuries, not a single red blood corpuscle has been formed," then we may well hang our heads in humility, and acknowledge that there is

absolutely nothing certain in therapeutics; that we are simply groping in the dark, or are suffering from delusional insanity. This would be a sad state of affairs, indeed; fortunately it is not so. We hope to prove in this editorial that the isolated iconoclast is utterly in the wrong, and to make our position clear at the outset, we will state that in the entire range of pathology there are but very few diseases which have such efficient and clearly indicated remedies as is the case with anemia. In our opinion, iron properly administered is almost as much a specific in anemia and chlorosis as is quinine in malaria, mercury and iodine in syphilis, or thyroid extract in myxedema.

Now, for the proofs. What requirements must a remedy comply with before it has the right to be considered a rational, proven and established therapeutic agent? We can demand from it: *First*, that it should appeal to, or at least not go against, our common sense; *second*, its clinical effects should be unmistakable, or at least concurred in by an overwhelming majority of those who have given it a thorough trial; and, *third*, its power for good should be capable of experimental demonstration—that is, the clinical results obtained with it should be supported by laboratory experiment and our instruments of precision. Of these three requirements, the really important one is the second; and if that is fully complied with, the other two may be ignored—as we have shown in a previous edi-

torial. But when a remedy answers *all* the three requirements, and when in addition thereto we are able satisfactorily to answer all the objections made by the opponents of such remedy, then the claims of the latter to a high place in the treasury of therapeutics may be considered well established indeed.

We will now take up the various points seriatim. That the administration of iron in anemia appeals to common sense, will be readily admitted. When a person is thirsty, the first thing we think of is the administration of water; when a person is being suffocated from lack of air or from breathing poisonous air, we at once admit a supply of fresh air or give inhalations of oxygen; and so when a person's blood is impoverished and shows a lack of iron, we naturally at once think of supplying that lack artificially, by administering an extra quantity of iron.

The opinion of the general medical profession concerning iron therapy is pretty well known. It would, of course, be impracticable to collect the opinions of individual practitioners, but their attitude in the matter can be correctly determined by examining the prescription files in various drug-stores. The output of iron in one form or another—organic and inorganic, official and non-official—is astonishing indeed. When we further examine the opinions of the teachers and writers of text-books we are confronted with a remarkable, rather unusual, unanimity. If we were to pick up a hundred or more authoritative text-books in various languages and open them at the page treating of the therapy of anemia and chlorosis, the word "iron" would uniformly present itself to our gaze. To give numerous extracts would serve no particular purpose and would prove tedious reading on account of the monotony; but two quotations, taken from the latest and most authoritative systems of medicine and therapeutics, we cannot refrain from reproducing here on account of their directness and unequivocacy. The first is from "Albutt's System of Medicine," considered the best and most authoritative in the English language. The articles on

chlorosis and anemia are by Prof. Albutt himself, and under the heading *Therapy* the following remarkable utterances occur: "I may almost paraphrase the words of Prof. Osler in respect to quinine and malarious fever: The physician who cannot treat chlorosis successfully with iron should abandon the practice of medicine. . . . It is only by a strong effort of memory that I can recollect any cases of chlorosis in persons of common sense and reasonable obedience in which iron failed to effect a cure." The second extract is from "Hare's System of Therapeutics." In Vol. I, page 513, we read the following sentence: "No fact in the whole field of clinical medicine has been more clearly *demonstrated* than that of the value of ferruginous preparations in anemic states."

We hope that we shall not be accused of invoking the aid of "authority." We are anything but authority-worshippers; we believe that in the domain of pure speculative thinking, in the field of ethics or civics, one intelligent man's opinion is as good as another's, and even the greatest professors of the greatest universities have no monopoly of the truth or of logic. But where *know-ledge* gained from facts and experience is concerned, there authority counts for very much. We will all readily agree that in matters electrical the opinion of Lord Kelvin, Roentgen or Tesla is worth much more than that of an ordinary electrician and bellhanger. And when a thoroughly trained, scientific physician with an immense hospital practice and private clientele, after half a century's experience with a certain drug declares emphatically that that drug is beneficial in a certain disease, shall his opinion weigh no more in the balance than that of some obscure, perhaps untrained, practitioner with but limited opportunities and experience? Assuredly not!

We now come to the experimental part. Fortunately, the action of no drug can be experimentally demonstrated with more certainty and greater ease than that of iron. With the aid of the hemoglobinometer and hemocytometer we can follow up from week to week, almost from day to day, the



gradual increase in the percentage of hemoglobin and number of red blood corpuscles. Reports like the following, for instance, are quite common: Before treatment—hemoglobin, 40 per cent.; erythrocytes, 3,000,000. At the end of first week of ferruginous medication—hemoglobin, 45 per cent.; erythrocytes, 3,260,000. At the end of second week—hemoglobin, 60 per cent.; erythrocytes, 4,100,000. At the end of fourth week—hemoglobin, 75 per cent.; erythrocytes, 4,900,000. Could any results be more plain, more unmistakable? Of course, it might be said that the improved diet and régime which are generally prescribed in conjunction with ferruginous treatment, contribute towards the good results. Perfectly true, but so they do in every other treatment. We do not deny the value of cardiac tonics and sedatives in heart disease, because rest in bed hastens or enhances the good results.

We hope we have succeeded in showing that iron satisfies the severest demands that can be made on a remedial agent—*quod erat demonstrandum*.

#### OBJECTIONS TO IRON THERAPY ANSWERED

We will now consider the arguments put forth by the anti-iron therapists. It will be seen that all the arguments but one are speculative and based on preconceived theories. The first argument is that iron is an inorganic substance, and being inorganic it can only irritate or stimulate; but can never be absorbed and assimilated by the blood or tissues. There is not a scintilla of evidence in favor of this assertion; on the contrary, all the testimony is against it. To take but one illustration out of many: Common salt or sodium chloride is about as inorganic a substance as one can think of; nevertheless it is a *necessary* constituent of our daily diet, is absorbed and assimilated equally well with our organic food, and, in fact, its absence from our dietary works sad havoc in our economy.

Another argument or, rather, assertion is that if we see some good results from the administration of iron preparations, those results are to be ascribed to some other products associated with the iron. Thus, one

estimable gentleman says that the reason we get good results from the tincture of chloride of iron is because of the hydrochloric acid it contains. Out of this argument the bottom can at once be knocked by the consideration of the fact that in chlorosis—one of the truest forms of anemia—we get the best results by preparations of iron which contain no hydrochloric acid; namely, by ferrous carbonate in the form of Bland's pills, Vallet's mass or Griffith's mixture, or by ferrous sulphate, ferric citrate, etc. Another gentleman who is very much opposed to iron therapy, very frequently prescribes in his own practice a preparation of iron and manganese; he gets good results, but he ascribes them solely to the manganese. How he *knows* that it is the manganese that produces the good results and why in such cases he does not prescribe manganese alone, are questions to which we could get no satisfactory answer, though we tried to.

The third argument, which the anti-iron therapists consider their most unassailable stronghold—but which, as will be seen, can be most easily demolished—is as follows: "Our ordinary food contains all the iron required for the needs of the system, and if that is not assimilated, what wisdom is there in giving artificial iron?" To this there are two answers. First, while our food contains enough iron for the needs of a *healthy*, iron-rich blood, it does not contain enough to supply an anemic blood. Second—and this is the most important reason—the iron in the foodstuffs is contained in such a complex molecule that the system of the anemic is incapable of disassociating it, of separating out the iron, and of absorbing and assimilating it. At other times the destruction of the red corpuscles proceeds at such a rapid rate, that even if the patient's assimilative powers were not at fault, the natural food could not possibly furnish a sufficient amount of iron to make up this loss. This being the case, is it not perfectly rational, then, to administer an extra supply of iron, in an isolated, absorbable, and assimilable condition? We might as well object to the administration of isolated, predigested proteids on the ground of their being contained in a natural form in bread



and meat. Give a typhoid-fever patient a good steak and you are likely to kill him, because his digestive powers are not equal to the task of disassociating the complex product and separating the nutritive material from the useless residue; give him a rationally prepared, predigested beef-juice or beef-albumin, and you nourish him without overtaxing his digestive and assimilative powers.

A still further apparently very strong argument is that the entire amount of iron ingested may be recovered in the feces. Hamburger's experiments were the first ones in this direction, and it was really those experiments that first threw discredit on the iron therapy. Now, first of all, we claim that it is practically impossible to be absolutely certain that the *entire* amount ingested has been recovered. If a gram of some iron preparation be administered, and one centigram be absorbed, the result would not show with unerring certainty in the chemical balance. It must not be forgotten what numerous processes of separation, precipitation, drying, etc., the iron must undergo before it can be stated that it has all been extracted and is free from all contaminating impurities. Second, the later, painstaking experiments of Zaleski, Gottlieb, and others have shown that the recovery in the feces of an equivalent amount to the one ingested does not speak against the absorbability of iron; on the contrary, they believe that the iron is absorbed, but that absorption of fresh iron stimulates the elimination, through the intestines, of old, used-up, broken-down iron.

Still another objection: We all admit that iron is absorbed in very small—minute, we might say—quantities only; why, then, administer those large doses, which are generally prescribed? To this we answer: There is no guarantee that a minute quantity would just come in contact with the intestinal villi and be absorbed; a minute quantity might, so to say, get lost in the large amount of residual, inert matter. We may give 10 grm. of iron per dose and not expect more than  $\frac{1}{10}$  or even  $\frac{1}{100}$  grm. to be absorbed and assimilated. But this is quite sufficient when we bear in mind that

the entire amount of iron present in the blood of an adult is about 13 grains.

There are two minor objections, which, for the sake of thoroughness, might as well be answered. Iron, we are told, does some good; but the good it does is more than counter-balanced by its evil effects: injury to the teeth, constipation, and disturbance of digestion. The idea that iron preparations have a ruinous effect on the teeth is based on a misapprehension: the tincture of ferric chloride has that effect, but that is because it is a strongly *acid* preparation. Perfectly neutral preparations have no such effect; besides, the danger can be absolutely avoided by administering the iron in pill, tablet or capsule form. The constipating effect is also produced by those iron preparations only which are astringents; the organic preparations have no constipating effect. This effect can also be easily obviated by combining the iron with some laxative like aloes—a practice which has always been followed by the old practitioners. The digestive disturbance resulted in great part from the constipation, and now, in administering the elegant pharmaceutical and organic preparations, we hear very little complaint of gastric intolerance towards iron.

We are further asked: We know that in anemia the cells have "struck" against the natural iron contained in the food; then why is it the chemist's supreme ambition to imitate Nature's iron as closely as possible? First, we do *not* know that every case of anemia is due to a "strike" on the part of the assimilative cells. They may be all right: the trouble may be due to an excessive destruction of red corpuscles. Second, while it is the chemist's ambition to have his ferruginous compound resemble Nature's iron as closely as possible, we must remember that at the same time he gives us the compound in an *isolated* state, so that the assimilative function need not be subjected to the work of isolating.

We believe that only those who *will* not see can remain blind to the value of iron in anemia and chlorosis. In a future editorial we shall take up the *modus operandi* of iron in the economy.

[Written for Mack's Archives]

**THE USE OF CAMPHOR-MENTHOL IN DISEASES OF THE NOSE AND THROAT**

By Lewis S. Somers, M.D., Philadelphia, Pa.

OF the many drugs used in the treatment of diseases of the nose and throat, camphor-menthol occupies a somewhat unique place, inasmuch as it covers a wide field of utility; is of eminent service in both acute and chronic inflammatory changes of the mucous membrane, and yet to the general practitioner, and even to many laryngologists, it seems to be comparatively unknown. A careful survey of the literature from the time of its introduction into this field in 1891 by Bishop (Mississippi Valley Medical Association, 1891) reveals an absolute dearth of information in regard to its valuable properties.

In the early days of laryngology, and to some extent at present, camphor was extensively used as a local application, for its stimulating effect upon the mucosa, and was also given internally for the same purpose on account of its nerve-sedative properties, in various nasal and pharyngeal conditions associated with marked hyperesthesia, such as is seen in hay-fever. Locally, however, camphor is too irritating when used alone, and as it is undesirable to apply its alcoholic solution to the delicate mucous membrane, it is now rarely used in this way, but still retains some degree of confidence when taken internally for its supposed effect upon the upper respiratory tract. Being used in this manner, especially in acute coryza, in various combinations with other remedies, the tablet or capsule of camphor, quinine, and belladonna proves of considerable value in this connection. When a small particle of gum camphor, or a drop of a 10-per-cent. solution, is placed in the nose, decided irritation immediately ensues, the parts become red, and the secretion is greatly increased, and the patient complains of severe local pain. Should a much weaker solution be used for the same purpose, the irritation is not so great, and after a time is replaced by a sensation of coolness, but the secretion is still increased and frequent sneezing testifies to its irritative qualities.

Menthol crystals when used in the same way are productive of similar phenomena, with, in addition, the production of a most unpleasant burning and stinging sensation. This drug, however, in from 1- to 5-per-cent. solution, produces a mild degree of vascular constriction and acts as a depletive, both the secretion and vascularity of the parts being diminished to a slight extent for

some time after the application has been made; but this effect, while vastly inferior to that of cocaine or the extract of the adrenal gland, differs from the latter two in that it is not followed by augmented dilatation of the vascular channels; but, instead, they gradually regain their normal tonus.

A combination, therefore, of these two drugs, possessing their advantages and eliminating the defects, is obtained by putting equal parts of menthol and gum camphor together and allowing them to stand undisturbed for several hours, when a new product is obtained known as camphor-menthol. This is a clear, colorless liquid. On account of the liquefying power of camphor in the presence of chloral, carbolic acid, thymol, menthol, salol, and other substances, the resultant product is obtained spontaneously without heat or trituration. Still, if triturated in a mortar, liquefaction proceeds much more rapidly.

As this form represents the full powers of the two drugs it is too strong, as a rule, to apply to acutely inflamed mucous membranes, and when used in such cases as coryza, etc., it must be properly diluted by the addition of any of the numerous bland petroleum oils readily obtained for this purpose. For office use this may be done by the physician, but for dispensing purposes I have experienced considerable difficulty in having the pharmacist properly prepare the solution, as he will, unless personal and explicit directions be given, add the amount of menthol and camphor ordered to the oil, and under such circumstances a mere solution of these two drugs will be produced, in no way comparable to the pure camphor-menthol when made in the proper manner. Such a solution, containing the two drugs added separately, is usually quite irritating, and after telling the patient in certain cases that the solution will produce a soothing effect upon the mucosa, it is extremely annoying to have them complain that the reverse has occurred and that whenever they use it the irritation in the throat or nose has increased. This, however, can be readily overcome by having the pharmacist keep a stock solution of the compound on hand and diluting it as directed in the individual case.

When the two drugs have been properly mixed and liquefaction ensues, a small amount of camphor invariably remains, and should be removed by filtering through cotton, when the resultant product remains clear and permanent.

The peculiar physiologic properties of camphor-menthol embrace those of both

drugs entering into its composition, and when locally applied in from 25- to 50-per-cent. solution, it rapidly produces a copious serous secretion, both by stimulating the glands of the mucosa and by its powerful osmotic properties. This effect resembles that produced by camphor or menthol, but is not as painful as when either is applied alone, and in chronic cases associated with sclerosis or atrophy of the tissues, as in the so-called atrophic rhinitis, it has in my hands given considerable satisfaction.

When a weak solution is used (from  $\frac{1}{2}$ - to 3-per-cent. strength), the secretion soon diminishes in amount and becomes more natural both in quantity and appearance, while the superficial capillary blood-vessels become contracted, and the mucosa loses its inflamed appearance and approaches more naturally to its normal pinkish aspect. Swelling, especially in the nose, becomes diminished, and the sense of fullness and pain accompanying nasal obstruction so often complained of in acute disorders of this region is much ameliorated, while in many cases it may entirely disappear. Hyperesthesia of any portion of the mucous membrane of the upper respiratory tract, such as repeated attacks of sneezing or coughing, offers a fertile field for the use of this drug, either, in some cases, alone, or as an auxiliary to some other form of treatment; while its antiseptic properties, like those of the drugs composing it, are well marked and give it an added value as a local application.

The methods of applying camphor-menthol to the parts affected are numerous and vary with the result which it is desired to obtain. In pure solution, or but slightly diluted, it is applied on cotton tampons to the nasal interior in atrophic cases; and in similar conditions of the pharynx associated with a dry, glazed mucous surface, it is applied directly to the parts by means of a brush, or cotton tuft on an applicator. In acute conditions it is best used by means of a coarse spray, both to the nose and throat, while in laryngeal catarrh a fine spray, or preferably a nebula of a dilute solution, gives the most satisfactory results. Where it is desired to obtain, in indicated cases, the benefits of moist heat associated with the camphor-menthol, an inexpensive and most serviceable method is to have the patient add a few drops of the pure mixture to a given quantity of water in a tin vessel. On heating, the steam saturated with the fumes of the drug will arise. A tin or glass funnel is applied over the container, and if the top of the funnel is protected with a small piece of rubber tubing, the patient

can readily inhale and obtain the full benefit of the preparation. Of course, a regular steam atomizer may be used for the same purpose, but it is not at all necessary.

Again, should the patient be confined to his room and it be desired to have the vapor inhaled continuously or for longer or shorter periods of time, it may be placed in a broad dish containing water, and by keeping the temperature just within the boiling point, the atmosphere will become impregnated with the vapor. Or, if a more powerful effect is desired, a few drops of the undiluted drug may from time to time be vaporized on a metal dish or even a spoon, by placing it over a flame, when the atmosphere will rapidly become saturated with the fumes. In acute and subacute conditions of the nose, especially when associated with attacks of sneezing or intermittent stenosis, the patient may with some satisfaction use a few drops of the remedy in an ordinary pocket inhaler, such as menthol is commonly sold in. As a mode of giving temporary relief in some of these cases, it may prove of value, but this method has been of little service in my hands.

In nasal inflammations especially, and to a lesser degree in pharyngeal disorders, a most satisfactory method of applying this and similar remedies directly to the mucosa, with a maximum amount of benefit to the patient, is to have it dropped in the nose with an ordinary eye pipet, one with a curved tip being preferable. A few drops of whatever strength of solution desired, may be applied by the physician or patient in this manner. Owing to the extensive diffusion of the oily menstruum, the parts with which it is desired to bring the drug in contact are readily reached in this way, and the full effects of the remedy are obtained.

Camphor-menthol may be used alone or in combination with other remedies, and is especially valuable with the various oils, such as oil of pine, cubeb, eucalyptus, and gaultheria, or in combination with benzoin, iodine, etc., depending upon the auxiliary effect desired. The following formulas indicate the various combinations, which can be altered to suit the individual case:

Camphor-Menthol..... ʒ x  
Oil Eucalyptus..... ʒ x  
Oil Petrolatum, q. s. ad..... ʒ iv

Soothing and protective to the mucosa, especially in vaso-motor changes, such as hay-fever, etc.

Oil Eucalyptus..... 3 ii  
Oil Cassia..... ʒ xl  
Oil Gaultheria..... ʒ xl  
Camphor-Menthol..... ʒ xl  
Oil Petrolatum, q. s. ad..... ʒ iv

Stimulating spray, adapted especially to chronic pharyngitis, associated with dryness of the mucosa.

In acute coryza, in common with other sprays, I have seen but little benefit result and have consequently given up all forms of spraying in this affection, as it has seemed in my experience that much better results are obtained by internal medication, at least during the early stages. When the nasal secretion becomes largely mucoid or mucopurulent in character, then a coarse spray of a 2- to 3-per-cent. camphor-menthol will be exceedingly grateful to the patient, by reducing the intranasal swelling and altering the character of the perverted secretion. This may be used once or twice in the office, but frequently these patients are adverse to much treatment and better results may be obtained by directing the individual to place from 3 to 5 drops of a 2-per-cent. solution in the nasal chambers, four or five times a day. This can readily be done without the least discomfort and no cumbersome apparatus is required. The results will be favorable, the duration of the coryza will be diminished by several days, and the unpleasant symptoms will be entirely dissipated, or at least considerably ameliorated.

For a number of years I have used a  $\frac{1}{2}$ - to 2-per-cent. solution, dropped into the nose as previously mentioned, before and during the attacks of hay-fever, but since better results are obtained by the solution of the adrenal gland for this purpose, I have to a great extent discontinued the use of the camphor-menthol. That it is of value in this affection cannot be denied, and in conjunction with whatever other local and general treatment may be desired in certain cases, it relieves to a considerable extent the incessant nasal discharge and the constant attacks of sneezing.

Probably the widest field and the one in which the most satisfactory results are obtained by the application of this drug, is in that condition of subacute and chronic rhinitis, before marked tissue alteration has taken place, characterized by a constant tendency to frequent colds in the head, with intermittent nasal stenosis, especially at night, when one nasal chamber becomes impermeable for a time, then opens, and the stenosis occurs in the other. The mild constricting action of the drug, with its local depleting quality, are of efficient service here, and when a few drops are allowed to diffuse over the mucosa several times daily, permanent relief will ensue within a comparatively short time. Or, instead of using the drug alone for this purpose, the following formula may be substituted:

Cocaine Alkaloid.....	gr. ij
Oil Cassia.....	℥ x
Camphor-Menthol.....	℥ xv
Oil Petrolatum, q. s. ad.....	℥ ij

When, however, the nasal tissues have become permanently hypertrophied and the venous sinuses enlarged, nothing short of surgical measures will be of any benefit, although the irritation resulting from the contact of adjacent surfaces will be decidedly lessened by camphor-menthol applications. The hyperplastic tissue being reduced, however, by means of the saw, snare, cautery, etc., the local application of a 3-per-cent. solution of this drug, applied on pledgets of cotton, will serve a useful purpose, by diminishing the tendency to secondary hemorrhage and limiting the resultant inflammatory reaction. Especially is this so if it is allowed to remain *in situ* for a day, then replaced with a 10-per-cent. solution in the same manner, and this method of dressing the wound continued until the parts have healed, when they will present a clean, healthy aspect, and no swelling, broken-down tissue or tendency to septic changes will be observed.

When the opposite condition is present in the nasal tissues, the drug may be used in one of two ways, depending upon the extent of the sclerotic or atrophic process. When the secretions are diminished, the mucosa pale and atrophic, but the tendency to the formation of crusts is not well marked, the drug in from 15- to 30-per-cent. strength acts as an admirable local stimulant, when applied by massaging the parts with the cotton tuft, firmly wrapped on a probe and saturated with the camphor-menthol. This should be applied two or three times a week, or even more often if necessary, and an appreciable degree of vascularity, with the return of a more normal secretion, will ensue in those cases where the glandular and vascular functions have not entirely disappeared.

In the marked cases of atrophic rhinitis associated with ozena, the undiluted drug may be used in this manner after the nasal chambers have been cleansed by other means, and in addition a hollow cotton tampon with a central perforation for respiratory purposes, saturated with a 50-per-cent. solution, may more or less constantly be worn by the patient.

In acute inflammatory nasal conditions, when a mild strength is used, no irritation is produced and the drug may be applied for a long time without any untoward local effects, while in the latter class of cases stimulation is desired to a marked degree, and in a certain proportion good results are seen.

When used in the pharynx, a 3- to 5-per-cent. coarse spray is usually preferable in acute inflammations, while in the chronic,

glandular, sclerotic changes, such as are seen in the so-called clergyman's sore throat, local applications directly to the affected tissue, alternating with other stimulating applications, are of service.

A very good formula in this connection is as follows:

Iodine.....	gr. x
Potass. Iodide.....	gr. xx
Camphor-Menthol.....	℥ xx
Oil Petrolatum, q. s. ad.....	℥ i

Apply locally to enlarged glands of pharynx, three or more times a week.

This may also prove of value in soft, parenchymatous enlargement of the tonsils in young children, but is of no value when an excess of fibrous tissue is present.

In acute laryngitis, without edema, inhalations of steam containing camphor-menthol will often in the early stages aid considerably in aborting an attack, while after the disease has existed for a day or so, the addition of benzoin will aid in allaying the cough and irritation. Such a combination as the following will be of service:

Camphor-Menthol.....	℥ xx
Tr. Benzoin Comp.....	℥ i
Oil Petrolatum, q. s. ad.....	℥ i

Add to hot water, in strength desired, for steam inhalation.

When edema is present, it has been my experience that hot inhalations are of little value and frequently increase the extent of the swelling, while an iced spray of ½- to 1-per-cent. camphor-menthol, alternating every half hour, or even fifteen minutes in cases where the dyspnea is severe, with a spray of the suprarenal gland, will produce a rapid change in the appearance of the laryngeal swelling and frequently relieve the dangerous symptoms.

In chronic laryngitis, a 2- to 4-per-cent. spray of camphor-menthol, especially when accompanied by eucalyptus or pine-needle oil, will be of considerable service; but as many of these cases are usually dependent upon the presence of some nasal or pharyngeal lesion, the use of any spray or local application to the larynx is but palliative, until the lesion higher up in the air-passages is corrected.

It should be remembered, however, that in all the conditions in which this drug is here recommended, other local and general treatment, and especially in the chronic affections, is also advisable. Camphor-menthol is but a single remedy in the long list used for these various purposes, but it is a valuable one, and as one of many it has well earned the confidence of those who have used it.

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[Written for *Merck's Archives*]

## NEURASTHENIC URETHRITIS: ITS PREVENTIVE AND CURATIVE THERAPY

By J. M. Thompson, M.D., Boston, Mass.

(Continued from page 420, November issue)

### CURATIVE THERAPY

WE now come to curative treatment. Assuming that, in spite of one's efforts, extension has taken place, that the acute anterior has developed into a chronic posterior urethritis, involving the prostate gland and the seminal vesicles, what plan of therapy is it necessary to pursue in order to remove this most serious and stubborn complication?

It has been stated already that the characteristic feature of this form of chronic inflammations of the deep urethra is derangement of the nervous system, together with more or less impairment of sexual function. Its other features or symptoms, naturally, correspond to those associated with the ordinary forms of chronic posterior urethritis.

Since it is not relevant to the purpose of this paper to take up the detailed symptomatology of the disease, suffice it to say that the one sure and infallible proof of its presence is a microscopic examination of the product expressed from the prostate and vesicles, by means of stripping, and found either oozing from the meatus, or in the urine voided after the manipulation.

Although the curative does not entail such extensive and varied consideration as the preventive treatment of neurasthenic urethritis, nevertheless many of the remedial measures that have been found to possess the greatest virtues in the anterior urethra will be appropriately indicated in the process that is now located in the deep urethra.

The sheet anchor of the physician in respect of local therapy is *stripping*, for by no other means can the prostatic and vesicular deposits be removed; and so long as such deposits are allowed to remain, the peripheral termini of the nerves so abundant in the prostate and vesicles will of necessity be kept in a state of constant irritation. Stripping serves (1) to remove the pathological deposit located in the prostate and vesicles; (2) to relieve the congestion caused by the deposit; (3) to promote absorption and improve the circulation, so long hampered by the pathological deposit; (4) to restore the tonicity to the parts—impaired to a varying degree. Stripping in reality is a form of massage, a term which some authors prefer. It is beyond question a most reliable and indispensable factor in the local therapy, and in order to properly carry out the maneuver, the patient should bend forward to an angle between 45° and 90°, his hands resting on

the seat of the chair, the legs straight and about 12 inches apart, not unlike what is known as "the leap frog position." The physician should be seated in a chair directly behind the patient, convenient enough to be able to reach the vesicles and prostate with the tip of the forefinger (lubricated) of one hand, at the same time the other hand is passed around the patient's body to exert counter-pressure on the abdomen opposite the side of the prostate and the vesicle that are being stripped. As considerable difficulty will be found in reaching the vesicle at first, it is advisable to have as much urine in the patient's bladder as possible. Each vesicle will be found at the base of the bladder above and in front of the prostate, with the direction of which it appears to form an angle of about  $40^\circ$ . By means of the crescented tip of the palmar surface of the forefinger, careful and gentle strokes should be made downward and inward till the contents are evacuated. After a few trials the physician will acquire facility in stripping that will enable him to empty the vesicle without irritating the patient.

After stripping the vesicle and before withdrawing the forefinger, the corresponding lobe of the prostate may be stripped. The same method should be employed, but the process reversed by moving the finger inward and forward, gradually forming a curve in the direction of the opposite lateral lobe, at the same time exerting sufficient pressure to make sure of evacuating the contents of the lobe that is being stripped. During the manipulation it is a good plan to have the patient hold a receptacle under the meatus to catch whatever may chance to drop from the urethra for microscopic test. It is not advisable to strip both vesicles and lobes with the forefinger of one hand alone. It will be sufficient to employ the right forefinger in stripping the right vesicle and the right lateral lobe of the prostate, while the left forefinger should be used for the left vesicle and the left lateral lobe. Pedersen recommends "making a rotary motion with the end of the forefinger first over one lateral lobe and then over the other," but this is likely to entail some danger in lacerating the superficial tissue of the gland. Besides it will be found almost impossible to reach the left vesicle, for instance, unless the left forefinger be used. Reaching the vesicles will entail more or less difficulty in every case and one need not be chagrined at one's inability to locate them in health, for let it be said that even when they have become the seat of a pathological process, it is not seldom that physicians give up in despair. The long slender forefinger, possessed of

a most delicate tactile sensibility, will enjoy unique advantage in the diagnosis and treatment of vesicular disease. But in the absence of experience no finger can be considered reliable.

At each visit the patient has as much urine in the bladder as he can hold comfortably. A small portion of this is voided into a glass and preserved. After stripping, the bladder is completely emptied into a vessel suitable for the purpose, which will contain the expressed seminal and prostatic material. During the maneuver of stripping, should there be an abundance of secretion sufficient to fill the deep urethra, one may expect that secretion to flow in the direction of the least resistance, which at one moment may be outward to the meatus and at another may be inward toward the bladder. In his preparation for stripping, the patient should be provided with a receptacle to catch what drops from the meatus. By way of suggestion the writer would say that if the urine is voided into *two* glasses after stripping, instead of into one, the possibilities of losing a constituent of the expressed product will be reduced to a minimum. Generally it will be sufficient to repeat the stripping every five or seven days, according to the nature of the case, the susceptibility of the patient, and the result obtained. The urine should be examined at each visit and the expressed product submitted to microscopic test occasionally, for the purpose of ascertaining the patient's condition.

Should any discharge or any other symptoms of inflammation of the anterior or posterior urethra be present after removing the prostatic and vesicular products by stripping, no time should be lost before resorting to irrigation, which may be carried out by different methods. In the hands of the writer the best results have followed irrigation by means of a soft flexible catheter, which can be attached to the rubber tubing of a fountain syringe, or to that of a reservoir designed for the purpose, similar to the one bearing the name of Dr. Valentine.

To irrigate the anterior urethra, the patient reclines on his back and a small sized (No. 8 to 10 F.) flexible catheter is passed to the bulb in front of the compressor muscle. One can begin with a weak solution—1:5000 permanganate—held about 2 feet above the patient, and the flow should be allowed to run until a smarting sensation is experienced at the meatus. This irrigation can be repeated and the solution strengthened according to the effect produced. Agents besides potassium permanganate may be used, such as silver nitrate, corro-

sive sublimate, boric acid, solutions of the zinc and lead salts, and others suitable for the purpose; but since the permanganate solutions possess both astringent and antiseptic virtues, they seldom fail to meet all the requirements when employed intelligently and watchfully.

In some cases the condition of the urethral mucous membrane will call for the passage of steel sounds, and it is recommended that when possible Dr. Otis's rule in regard to the ratio between the diameter of the urethra and the circumference of the penis be carried out. There is little doubt that oftentimes gradual dilatation proves a failure in the hands of physicians who possess only half-a-dozen sounds—generally odd sizes—which they consider sufficient for all cases. Maximum dilatation is the secret of success.

In many patients, in order to follow the rule of Doctor Otis, meatotomy must be performed; and notwithstanding the hue and cry raised in certain quarters against this operation, when done accurately with a sharp bistoury instead of with a dull scissors, it cannot fail to redound to the benefit of the patient.

In this connection, in view of the marked benefit resulting from the treatment, the writer must not overlook mention of the passage and retention of a cold steel sound when every vestige of the disease has been removed. At first, ordinary cold water will be sufficient, but when the patient has become used to the sounds they should be thoroughly rubbed with ice and retained in the urethra at least a minute. By repeating a few times the stimulating effect on the sexual function will be little short of marvellous.

Until the inflammatory product seated in the prostate and seminal vessels is entirely removed, the patient should abstain from all nervous and sexual excitants; he should pay strict attention to the care of his health, preserve good digestion and regularity of bowels. He should guard against overwork, both mental and physical. He must bear in mind, also, that his disease is constitutional as well as local; and whatever proves to be beneficial or harmful to his general bodily condition must necessarily affect his sexual apparatus for better or for worse.

The patient should fully realize the close relation existing between the sexual function and the central nervous system; furthermore, he should understand in a practical way the nature of his trouble and the plan to be pursued in curing it. In other words, the physician and his patient should stand in the relation of help-mates—one to guide, the other to follow. The writer can

truthfully say that in every case where the patient was able to complete treatment the results have been satisfactory in every way, and he is quite positive that his success can be attributed very materially to the insistence on certain rules in each case—namely, at the start to make a confidant of the patient, to have no secret or mystery in regard to the treatment, and at each examination of the secretion to have the patient present as an interested witness. It is surprising how much interest patients display, especially when allowed to look into a microscope. I can assure the reader, when a patient is able to make out the spermatozoa, no further effort is required either to gain or to hold his confidence, which, in itself, is a factor substantially equivalent to an assurance of success.

No doubt such familiarity on the part of the physician will be made an object of derision by some; possibly it may awaken in others a feeling of hearty contempt; but it will win the applause of those whose experience in the management of neurasthenia has brought home the true significance and value of *savoir faire* in therapy.

During treatment the patient should endeavor to tone up his deranged nervous system, and the remedial means which, in the writer's experience, should hold preference over all others, is the morning bath. The one that will appeal to the majority of patients, however, is the sponge bath, which should be taken cold followed by a brisk friction rub; but if possible, patients should be induced to take the cold plunge, by all odds the most invigorating form of bath, as it promotes a general circulation throughout the body. Nothing in fact can compare with the plunge bath as a sure and permanent means of restoring nervous force and as a promoter of bodily health. Patients of sedentary, indoor occupations should arrange to walk in the open air at least an hour each day.

In point of exercise, wide difference of opinion prevails among authorities. The writer believes that vigorous exercise should be eschewed, for neurasthenics become easily fatigued, and anything that produces a feeling of exhaustion antagonizes the work of repair. Horseback and bicycle riding should not be indulged in. Doctor Mitchell has conclusively demonstrated the value of rest to patients suffering from nervous exhaustion, and it seems only reasonable to believe that the neurasthenic should husband his nervous vitality—which can be done only by avoiding every possible source of nervous fatigue.

The patient should be regular in going to



bed as well as in getting up; and his sleep must be sufficient both in quantity and quality to insure refreshed feeling in the morning and a desire "to be up and doing." Should sleep be restless and broken, the cause must be ascertained and treated appropriately. By no means should hypnotics be used, unless absolutely indicated. Oftentimes a hot bath at bedtime, or a walk in the open air, or a hot drink slowly sipped will promote sleep. If the stomach, bladder, or other organs should prove to be the cause of the patient's wakeful and restless sleep, no time should be lost in treating the offender. Some patients are benefited by electricity and massage, both of which should be employed, if found to be of value.

Frequently, too, it will be found that a sojourn in the country, an ocean trip, a change of occupation or residence, will prove to be the one and only means of cure.

In conjunction with rest, food rather than medicine should be depended upon to restore the nervous force. While the physician should be cautious in regard to diet during the stripping stage, when too much albuminoid food would be likely to excite the sexual apparatus, after the stripping, in some patients whose nervous strength is still deficient, plenty of wholesome nutritious food, properly digested, has no equal as a nerve reconstructive. Besides three hearty meals he should have light lunch in the morning, afternoon, and before bedtime, suitable to his needs, such as a glass of milk and cracker or sandwich. The question of choice between animal and vegetable food is one that cannot yet be decided definitely. Occupation, environment, physical condition, personal preference, idiosyncrasy, and the state of the digestive apparatus are all factors to be considered in prescribing diet. The old familiar saw "What is one man's meat is another man's poison" finds appropriate application in this direction. Generally speaking, the writer is disposed to believe that a preponderance of vegetable and carbo-hydrate food is to be preferred for neurasthenics, on the ground that animal food excites and agitates the nervous system to a greater extent than vegetable.

Independent of such medicinal measures as were found necessary in the treatment of the pathological process seated in the deep urethral region, the physician will be required to employ other remedies in the cure of neurasthenia.

First on the list is *nux vomica*, which should be given in small doses of 3 drops at first. It is an old reliable nerve tonic and stomachic. *Cannabis Indica* is a valuable drug in the depression of neurasthenia, and,

besides, has a soothing effect on the general nervous system. Strange to say, *ergot*, in the form of fluid extract, or *ergotin*, has a happy effect—explained, perhaps, on the ground of its specific effect on the uterus; hence it would be valuable also to the prostate, the uterine analogue. Considering the action of the above three drugs, one can understand the therapeutic importance of compound *ergotin* pills in *neurasthenia*.

Anemia may call for iron, of which there are many forms available. *Phosphorus*, the hypophosphites, the valerianates, and *sumbul*, preferably as dispensed in the pil. *sumbul comp.* of Dr. Goodell, and containing  $\frac{1}{2}$  grn. of the extracts of *sumbul*, *valerian*, *hyoscyamus*, and  $\frac{1}{10}$  grn. of *cannabis Indica* are useful.

The nervous force in *neurasthenia* may be compared to the bodily weight in consumption—the daily loss of both exceeds the daily gain. Hence, it is self-evident that if this order can be reversed the problem is solved and a cure must follow. The first duty of a physician, then, is to feed the patient in such a way that more shall be assimilated or converted into force, or tissue, each day than is eliminated or wasted.

[Written for *Merrill's Archives*]

## AN INDEX OF DISEASES ALPHABETICALLY ARRANGED, WITH THEIR MODERN TREATMENT

By G. Bjorkman, A.M., M.D.,

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(Continued from page 424, November issue)

**ARTHRITIS.**—See *Rheumatismus Articularum*.

**ARTHRITIS URICA.**—See *Gout (Podagra)*.

**ASCITES** (*Abdominal Dropsy*) is a symptom of different diseases. The following little scheme will help the diagnostician to find the primary origin of the evil. *Ascites* may exist as a result of:

- (1) Morbid condition of the kidneys.
- (2) Heart-disease.
- (3) Disturbances in the portal system.
  - (a) Syphilis of the liver; (b) cirrhosis of the liver; (c) thrombosis of or pressure on the *vena portæ*.
  - (4) Diseases of the peritoneum.
    - (a) Chronic inflammation of the peritoneum;
    - (b) tuberculosis of the peritoneum;
    - (c) neoplasms proceeding from parietal or visceral parts of the peritoneum.

Kidney and heart diseases must be treated according to the different conditions existing, before the *ascites* can be reduced permanently; if the discomfort or danger to life is alarming, the abdominal wall should



be punctured with a trochar, under perfect, aseptic precautions, and enough of fluid withdrawn.

For relieving ascites depending on syphilis and cirrhosis of the liver, see under these diseases.

Tuberculosis of the peritoneum, or intra-abdominal tumors, should always, if possible, be treated surgically.

Internal medication sometimes gives very satisfactory results when the ascites depends upon heart-diseases and where an increased diuresis is possible. Some of the following formulas are, in early cases and under condition that the kidneys are normal, very useful:

(150) Sodii Sulphatis.....90. (3 oz.)

Dr. ad scatulam.

Tablespoonful in tumblerful of water or bouillon, in the early morning.

(151) Hydrarg. Chlor. Mitis.....0.2 (3 grn.)

Sacch. Lactis.....0.5 (8 grn.)

Dr. tal. dos. No. x.

One powder four times a day, with plenty of water.

Care should, of course, be taken against stomatitis, especially when the teeth and gums are in poor condition. If stomatitis symptoms occur, cease! Calomel should be given only when the kidneys are absolutely normal.

(152) Aceti Scillæ.....30. (1 oz.)

Liq. Ammon. Carb., q. s. ad saturationem

Aq. Menthe Pip.....150. (5 oz.)

Spir. Ætheris Nitros.....4. (1 dr.)

Eleosacchari Juniperi, q. s.

Tablespoonful every two hours.

(153) Potassii Acetatis.....15. (½ oz.)

Decoct. Rad. Taraxaci, ad.....240. (8 oz.)

Tablespoonful four times a day.

(154) Tartar. Boraxat.....15. (½ oz.)

Decoct. Rad. Taraxaci.....200. (6¾ oz.)

Syrupi Scillæ, ad.....240. (8 oz.)

Tablespoonful three times a day.

(155) Infus. Digitalis Folior.....180. (6 oz.)

Tablespoonful five or six times a day. (Should be prepared of the best leaves.)

The remedy is indicated where a small and rapid pulse exists. The action of digitalis is, in general, noticeable first after second bottle of the infusion is taken. Should also be repeated twice or three times. In very stubborn cases the infusion of digitalis could be given in combination with potassium bromide or potassium acetate.

(156) Infus. Adonidis Vernalis (5% strength).....240. (8 oz.)

Tablespoonful six times a day. (May be continued for long time; no accumulative effects, as in digitalis.)

(157) Caffeinæ,

Natrii Benzoatis, aa.....2. (30 grn.)

Aquæ Dest., ad.....120. (4 oz.)

Tablespoonful four times a day. (This formula

is sometimes of great efficiency in heart dilatation and gives rapid results.)

(158) Scammonii Pulv.,  
Folior. Digital. Pulv.,  
Bulb. Scillæ. Pulv., aa.....5. (75 grn.)

Ft. pilulæ æquales No. c.

One or two pills four or five times a day.

(159) Bulb. Scillæ. Pulv.,  
Folior. Digital. Pulv., aa...1.5 (23 grn.)  
Succ. Juniper. Inspiss., q. s. ut ft. massa.

Div. in pil. æquales No. xxx.

One pill four times a day.

(160) Extr. Colocynthis,  
Extr. Graminis,  
Stibii Sulphur. Aur.,  
Folior. Digital. Pulv.,  
Bulb. Scillæ. Pulv., aa.....1. (15 grn.)

Mf. pill No. 1.

Three pills three times a day.

(161) Infus. Digitalis.....150. (5 oz.)

Potass. Bitartr.....20. (5 dr.)

Potass. Citrates.....15. (4 dr.)

Syr. Rubi Id.....30. (1 oz.)

Tablespoonful three or four times a day.

(162) Theobromin. Sodio-Salicyl. 6. (90 grn.)

Aquæ Dest.....150. (5 oz.)

Syrup. Menthe, ad.....180. (6 oz.)

Tablespoonful two or three times a day.

(163) Theobromin. Sodio-Salicyl. 1. (15 grn.)

Dr. tal. dos. No. viii.

One powder six times a day in water.

If the heart is in good condition, a diaphoretic remedy may be tried, as follows:

(164) Pilocarpini Hydrochlor....0.01 (1/10 grn.)

(Or hypodermic tablets  
of reliable make)

Aq. Dest. Steril., q. s.

Use as a hypodermic injection at once. Maximum dose of pilocarpine is 0.03 (1/32 grn.)

(165) Natrii Salicylici.....1. (15 grn.)

Dr. tal. dos. No. xii.

One powder in coffee or water five times a day.

In anemic, cachectic individuals, where a malarial anamnesis is suspected, use the following:

(166) Bulb. Scillæ. Pulv.....0.2 (3 grn.)

Quininæ Mur.....0.15 (2 1/2 grn.)

Dr. ad caps. tal. dos. No. xv.

One capsule four times a day.

Digitalin German (Merck) has proved very useful, and may be given in doses of 1/10 to 1/2 grn., three or four times a day. The doses previously recommended—1/44 to 1/32 grn.—have proved inadequate.

(167) Decoct. Cort. Sambuc. Nigr....240. (8 oz.)

Tablespoonful four or five times a day.

ASPHYXIA, INCIPIENT.—Always suspect some foreign body or substance in the air-passages, and, if possible, immediately remove it. Arrange for access of fresh air; raise head and upper part of body; remove tight dress, collars, corsets, etc. Irritation to the skin should be produced by sinapisms; stimulate respiratory center by electricity, if time allows.

- (168) Træ. Valerianæ.....20. (5 dr.)  
 Spir. Ætheris.....10. (2½ dr.)  
 Twenty to forty drops on sugar, frequently repeated, until restoration.
- (169) Ætheris Pur.....15. (½ oz.)  
 Twenty-five drops or more hypodermically.

**ASTHMA.**—Since many of our current text-books, in dealing with this disease, are not only indistinct and uncertain, but sometimes quite antiquated in their views of its etiology and therapy, we deem it proper to give here a short but clear review of the clinical features of this complicated and many-sided evil. Such a summary may in many instances enable the hesitating practitioner to differentiate quickly between the various asthmatic types, to arrive at a definite diagnosis, and at a rational judgment in selecting the most suitable remedy—be it pharmaceutical drugs, suggestive therapeutics, or hygienic advices and measures.

*Asthma is, in my opinion, a bronchial cramp depending upon certain alterations in the respiratory centers of the medulla oblongata, slightly or severely involving the psychical faculties, and is always accompanied by a more or less pronounced fright or agony.* That the vasomotor centers of the bulb also participate in the originating of this complexity of symptoms is probable, when we consider the anatomical juxtaposition of the respiratory and vasomotor nuclei in the Calamus scriptorius at the floor of the fourth ventricle.

An alteration in these centers leading to asthma is brought about by two etiological factors, namely: (1) By reflex irritation from some pathological condition in the system (including the encephalon minus the bulb) continually transmitted in centripetal direction, altering the metabolic equilibrium of the medullary cells and leading centrifugally to a bronchial cramp. This is named reflex asthma. (2) By intoxication from katabolic products, brought by the circulation into the medullary centers and there overcrowding the intercellular lymph, impairing the normal nutrition of the cells themselves, and resulting in a metabolic alteration in the center, leading to a bronchial cramp. This is named intoxication asthma.

In both instances the causal factor seems to be a katabolic excess. In the reflex asthma a continual irritation in the periphery or within the encephalon is centripetally transmitted to the medullary cells, overstimulating them to a hypermetabolism with katabolic waste in excess. In the intoxication asthma the excessive katabolic products are, as explained before, directly introduced to the center by the blood.

If we first consider the reflex asthma we find that a continuous irritation from some pathologically affected part of the system is slowly but continually transmitted to the center of respiration, centrifugally responding with a bronchial cramp. Such pathological processes, leading to central irritation, have their regions of predilection in the system, and the different types of reflex asthma are therefore named after these regions or the particular disease that causes the irritation. For instance, asthma nasale, depending upon certain pathological conditions in the mucous membrane of the nasal cavities most often limited to well-isolated spots, "asthmogenic points," the radical extermination of which by cauterizing or other means quickly leads to total eradication of the asthma. Also, in other regions of the air-passages such "asthmogenic" points may be discovered, and the asthma arising from them is named according to the locality of the pathological process—for instance, asthma pharyngeale, asthma laryngeale, and asthma bronchiale.

The eccentric nature of the solar plexus makes the stomach a frequent cause of vasomotor changes and manifestations in the skin; for instance, we often find urticaria or other disorders in the integuments after abundant ingestion of certain stuffs—strawberries, crabs, sardines and certain medicines such as quinine and the salicylates. This may be named an idiosyncrasy of the solar plexus, but the same irritation of the stomach, instead of manifesting itself in the skin, may sometimes be transmitted to the medullary centers and by reflex action result in a bronchial cramp—in this case named asthma dyspepticum. Asthmatic types of the same order are the asthma vermicosum and asthma dentale, where worms in the intestine or a growing tooth may be the exciting causes to central stimulation. In the dental irritation the asthmatic condition may be very severe, but will soon yield when the tooth has cut through the gum naturally, or by the use of the lancet. Asthma vermicosum yields after local treatment by anthelmintics. The other types of reflex asthma, asthma uterinum and asthma sexuelle, depending upon morbid conditions in the genital sphere, are as a rule quickly cured when proper treatment of the causal disorders is instituted.

A very frequent but often overlooked cause of asthma is abundant perspiration of the feet. This asthmatic type, often accompanied by a mucous catarrh of the nose, is named asthma hyperhidrosicum. The perspiration may be controlled by radical

balneology or local application of chromic or tannic acid, and the asthma will soon disappear.

Asthma cardiacum is another reflex neurosis which must not be confounded with asthma cardiale, which depends upon a dyscratic condition of the blood produced by organic heart-disease.

To the group of reflex asthmas belong also two psycho-neuroses: Asthma hysterium and asthma neurasthenicum, the latter of which, if good therapeutic care be not taken of it in the early stages, may sometimes develop into the dreadful and incurable psychosis named traumatic dread neurosis, with its fearful symptoms and hopeless prognosis.

The second type of asthma, intoxication asthma, depends upon a dyscratic condition of the blood, an abnormal presence of katabolic substances—be they carbon dioxide, uremic products, urates or ptomainic bodies—that alter the alkalescence of the blood, and, transmitted to the medullary respiratory centers make the metabolic exchange sluggish and the intercellular lymph less alkaline: a condition that, sooner or later, leads to abnormal performance of the respiratory act and results in the bronchial cramp that we name asthma.

Such intoxication asthmas are most frequent in organic diseases of the heart and chronic disturbances or morbid conditions of the kidneys; but occasional and artificial intoxication asthma may naturally be produced by exaggerated muscular activity, where the waste products from myocellular metabolism overcrowd the circulation for a short while, becoming normal, however, after some rest, with disappearance of all the asthmatic symptoms.

The main representatives of intoxication asthma are asthma cardiale, A. renale, and A. plethoricum, which latter type is an asthma depending merely upon stasis, yielding to hygienic measures and abstinence. To this same static form belongs, of course, the stenotic asthma brought about by foreign bodies lodging in the air-tubes.

Asthma cardiale is the most frequent of intoxication asthmas. A scarcely detectable organic heart-trouble may, indeed, give rise to the most alarming asthmatic symptoms, when on the contrary a very pronounced heart-disease, with noisy and conspicuous physical manifestations, may produce practically no symptoms of dyspnea and bronchial disturbance. Therefore, a thorough physical diagnosis is always necessary in a case of intoxication asthma.

From the stasis in the pulmonary circulation (more or less pronounced, as we

know, in organic heart-diseases) a bronchial catarrh will always ensue and be the main complaint of the patient. Such a symptom should always suggest to the physician a careful examination of the heart.

Asthma cardiale is naturally more frequent when lacking compensation with dilatation exists—especially due to aortic insufficiency and stenosis—than in mitral affections.

Another type of intoxication asthma is the renal or uremic (A. renale) which in a good many instances is diagnostically very hard to differentiate from the cardiac type. Slight edematous phenomena in the facial region (also in other places) indicate, rather, renal affections. Dilatation of the right apartment of the heart, ascites, and slight albuminuria may just as well accompany kidney disorders as organic heart-lesions.

The accumulation of carbon dioxide in the circulation in cases of plethora often leads to asthmatic disturbances, but these are, of course, of far better prognosis than the other types of intoxication asthma.

In the group of intoxication asthmas the intermittent type may properly be classified. The katabolic disturbance may here derive its origin both from the cellular detritus of the elements of the blood and from the plasmoidal metabolism itself. The opinions here are very different, but we have always found that an intermittent asthma quickly yields to antiperiodics in full doses. The treatment should be continued for a time and repeated with short intervals.

There are some important clinical signs facilitating a quick differentiation between the two types of asthma. In the intoxication asthma the patient is generally cyanotic, his skin during the attack being covered with cold perspiration. The psychical excitement is always very pronounced, sometimes reaching a real dread and agony. The attacks appear, as a rule, in the evening or during the night. The sputum is in the first stages of an attack like common catarrhal phlegm, towards the end somewhat thicker, but disappears entirely soon after the spell.

In reflex asthma, on the other hand, patients show no signs of cyanosis; instead, a pronounced active hyperemia (particularly of the face) is often to be noticed, cold perspiration is not only absent but patient feels warm and the skin is dry. The psychical excitement is not so conspicuous, and the patient often knows how to control himself during the attack. The attack, as a rule, takes place in the daytime, and the

sputum is of a characteristic ropy or stringy consistence, becoming towards the end of an attack more viscid and lumpy.

Concerning the prognosis, it is of course more serious in the intoxication asthmas, where generally vital parts are chronically involved. In most of the reflex asthmas the prognosis is good *quoad valetudinem et quoad vitam*, if the cause is detected and radically treated. Some of the reflex asthmas, however, form prominent exceptions to this rule. The hysteric and neurasthenic types—although yielding to suggestive therapeutics and the strong will of the medical attendant, if discovered and treated in their early stages—may, if farther advanced, change the prognosis from good to very doubtful.

Having made a careful study of these facts, it must be evident to any one that to become both a good diagnostician and successful therapist of asthma, a physician should be thoroughly acquainted with nearly all the special branches of medicine.

In a nasal asthma it sometimes takes the most skillful rhinologist to discover and obliterate the asthmogenic points. For radical cure the pharyngeal, laryngeal and bronchial asthmas very often also require an expert's eye and hand. In the sexual types, generally speaking, great difficulty is experienced in detecting the cause, and even though the causal factors be finally discovered, the sufferer fares far better in the hands of a good gynecologist or genito-urinary specialist than when treated by a general practitioner of the ordinary caliber. The differentiation between asthma cardiale and asthma cardiacum is often difficult for the expert in heart diagnosis, and considering the difference in prognosis and treatment of these two diseases, the patient should always be given the opportunity of getting a specialist's opinion.

Asthma hystericum and asthma neurasthenicum may in the beginning be of such clinical insignificance that they entirely escape a young practitioner's observation. Remembering that these two reflex neuroses, if not nipped in the bud, may in later stages—especially the neurasthenic asthma—give rise to very complicated and incurable forms, once in a while even to such psycho-pathological monsters as the traumatic dread-neurosis, we do not hesitate to advise every young or inexperienced physician in such cases to resort to consultation as soon as possible.

The therapeutic aim regarding asthma is twofold: (1) to check or shorten the asthmatic paroxysm; (2) to remove the causes of asthma. In the first case we resort to

different palliatives, tending to lessen the reflex-irritability and to produce changes in the distribution of blood to the medullary centers. In many cases the paroxysm may be shortened or entirely aborted by the personal influence of the physician (suggestive therapeutics), especially in neurasthenic or hysteric conditions of milder type; an earnest reprimand from the medical adviser may produce a lasting, beneficial influence and help the sufferer to a better control of his or her nerves.

Mechanical means have been successfully tried, as rhythmic traction of the tongue synchronous with the respiratory rhythm (thus, eighteen to twenty times a minute), a napkin or handkerchief protecting the tongue from slipping out of the fingers. Compression of the cervical portion of the vagus sometimes checks an attack.

Among therapeutic agents used as palliatives we will only mention those most in vogue. Compound stramonium cigarettes are handy and sometimes effective enough. They generally consist of stramonium and lobelia leaves rolled into cigarettes with tissue-paper soaked in saturated solution of salt-peter (potassium nitrate) and tincture of belladonna.

Sometimes the smoking of a good Havana in the beginning of a paroxysm will be of benefit.

Formula for stramonium cigarettes:

(170) Fol. Stramonii,	
Fol. Hyoscyami, aa. ....	0.2 (3 grn.)
Fol. Belladonnæ.....	0.3 (5 grn.)
Extr. Opil.....	0.015 (¼ grn.)
Aq. Amygd. Amar., q. s.	

The inhaled fumes from fumigating pastilles containing similar drugs also prove effective.

Formula for fumigating pastilles:

(171) Herba Lobeliæ.....	3. (45 grn.)
Cort. Quebracho.....	8. (2 dr.)
Fol. Stramonii.....	12. (3 dr.)
Potass. Nitratis.....	18. (4 ½ dr.)
Sacch. Alb.....	12. (3 dr.)

Div. [in partes æquales No. vi e quibus ope folior. Stramonti candele fumant. form. Dr. stanno foliat. abduct.

Candles for fumigating purposes.

When suspicion of nasal asthma exists, spraying of the nasal cavities with 5-per-cent. solution of cocaine or B-eucaine leads to good results. In laryngeal asthma—also in other forms—inhalng repeatedly of pure carbon-dioxide gas for ten minutes has proved to be of great service.

The sovereign palliative in most forms of asthma is doubtless morphine and its derivatives, especially in combination with atropine. Hypodermically 0.015 to 0.02 (¼ to ⅓ grn.) of morphine sulphate with 0.0004 (1/150 grn.) of atropine sulphate

will generally give instant relief. Bimeconate of morphine, 0.015 ( $\frac{1}{4}$  grn.) per os leads also to rapid effects in a paroxysm. Here, also, the combination with atropine is highly indicated.

The physician should always bear in mind the possibility of narcotic intoxication and never administer opiates when other means may prove sufficient. Neither should the patient himself be intrusted with the administration of morphine or similar narcotics.

When the heart is in reliable condition, and this must always be ascertained, chloral hydrate may be administered with good results.

(172) Chloral. Hydrat..... 6. ( $1\frac{1}{2}$  dr.)  
Aq. Dest..... 60. (2 oz.)  
Syrupi Aurantii, ad..... 90. (3 oz.)

Two tablespoonfuls at a dose, two or even three times a day, as a preventive.

In nervous conditions potassium bromide in the same dose as the chloral may be added to this prescription. In very severe cases more heroic combinations are recommended as effective.

(173) Morph. Hydrochlor.... 0.015 ( $\frac{1}{4}$  grn.)  
Strychn. Sulph..... 0.0015 ( $\frac{1}{40}$  grn.)  
Hyoscinæ Hydrobrom.... 0.0003 ( $\frac{1}{300}$  grn.)

For hypodermic administration. If necessary, repeat once—but in most attacks such a dose has proven to be sufficient.

The radical treatment of asthma consists in the removal of its causes. Before referring to the pharmaceutical agents and special treatments used in asthma, we deem proper to give some general hints; the most important of which is application of the psychological rules that Brügelmann combines in the significant name "*éducation asthmatique*." Having observed that most cases of asthma show a more or less pronounced mental bias leading to a permanent auto-suggestion, this eminent asthmo-therapist expresses the opinion that no asthma with neurasthenic and hysteric tendencies can be successfully treated without attention to this psychic state. The asthmo-genic points and local pathological conditions originating the paroxysms should of course be thoroughly attended to at the same time.

The patient who "cannot do this," or "would not do that," always fearing a paroxysm, must be practically persuaded that he is wrong and should be convinced—if necessary, by force—that "he can do it very well." He must not be allowed to occupy himself or those surrounding him with tales and complaints of "his dreadful disease"; must never indulge in narrations of its interesting symptoms, and should be cleared as soon as possible of all "cranky"

habits and notions which he in general considers so necessary and indispensable to his comfort and welfare. He must be hardened by exposure instead of allowed to close himself up in the house wrapped in all sorts of things and in deadly fear of the slightest draft or fresh air. Cool or tepid water daily, instead of warm baths! He will complain loudly and refuse, but the cool-water treatment will soon help him. A patient who gets those asthmatic attacks in the night time should be told that from now on he will be entirely free from them. He is then given a new remedy "that will cure him." This remedy is only a good soporific, a full dose of chloral hydrate or trional, strongly flavored and best administered by the physician himself.

The patient will most often awake in the morning in the belief that he has "struck the right medicine," and after some few nights' good sleep the soporific may be lessened and something finally substituted, entirely indifferent, but flavored in the same way as the "remedy." This simple device will most often lead to most satisfactory results. But the patient, even when he is considered wholly cured, should never be told about the real nature of this cure, the remedy that "did the work."

Many asthmatic patients suffer from fixed ideas and imaginations, which they connect with the origin of their paroxysm. By auto-suggestion these fantasies and fancies develop by degree, and may sometimes lead to actual mania with exalted fear and agony. Here, if ever, the physician should use his firm influence, first by sensible reasoning and earnest warnings, and if these prove insufficient, then resort to hypnotism, until those mental phantoms are totally conquered. This is often a long and tiresome task, but in general lead to good results, except in the rare cases of psychic dread neurosis, where the prognosis is always extremely bad.

An important factor in the *éducation asthmatique* is the "discipline of the cough." From different reasons, asthma patients exaggerate their cough (by fear of gathering of mucus in the lungs; to be through with a spasm as soon as possible, etc.) The result of this intensification is always detrimental. By the increased jerks and continual irritation of the bronchial tract, new amounts of mucus are produced and an aggravation of the catarrh—almost edema—is brought about, until the patient, wholly exhausted, can cough no more.

The patient should be advised in earnest and warned against this bad habit; he will soon convince himself of the possibility of

checking the evil and will himself become the most eager adviser of his asthmatic fellow-sufferers—a fact that often may be observed in the hospital wards and at the lung sanatoria.

An excellent adjuvant in the treatment of asthma is *pneumo-therapy*. (The apparatus should be of the usual spirometer type, containing sterilized, compressed air with Brügelmann's rubber mouthpiece, so fitted that it excludes nasal respiration). This treatment improves the breathing capacity and increases the oxygen exchange, it does away with chronic catarrhs of the pulmonary tract, and opens atelectatic parts of the lungs. These improvements, soon noticed by the patient, never fail to psychically encourage him and strengthen his faith in a complete recovery, which is of enormous importance in most cases of asthmatic nature.

### Reflex Asthma

**ASTHMA NASALE.**—Cauterization of existing asthmogenic points (most frequent on the mucous membrane of the upper concha), either by electrocautery or by chromic or trichloroacetic acid. Spray with 1-per-cent. solution of tannic acid, potassium chlorate solution or other astringent antiseptics. Asthma naso-pharyngeale and laryngeale should be treated about the same way.

**ASTHMA BRONCHIALE.**—Most successful treatment by pneumatic apparatus (mentioned above) and inhalation of ammonium chloride in vapor or solution.

Bronchial asthma, with emphysema: Massage of the chest and respiratory gymnastics. Valuable formulas are:

- (174) Potass. Iodidi ..... 15. (4 dr.)  
Decoct. Senegæ ..... 200. (6 oz.)  
Syrupi Senegæ, ad ..... 240. (8 oz.)  
Tablespoonful before meals and at bedtime.
- (175) Euquininæ ..... 0.3 (5 grn.)  
Atrop. Sulph. .... 0.0005 ( $\frac{1}{150}$  grn.)  
Dionini ..... 0.025 ( $\frac{1}{8}$  grn.)  
Dr. tal. doses No. XII.  
One powder three times a day.

For a severe attack:

- (176) Morph. Sulph. .... 0.18 (3 grn.)  
Atrop. Sulph. .... 0.08 ( $1\frac{1}{2}$  grn.)  
Aq. Dest. Steril ..... 25. (6 dr.)  
Twenty drops hypodermically.

When nervousness exists:

- (177) Chloral Hydrat.,  
Potass. Brom., aa ..... 6. ( $1\frac{1}{2}$  dr.)  
Aq. Dest. .... 60. (2 oz.)  
Syrupi Aurant., ad ..... 90. (3 oz.)  
Two tablespoonfuls at once. Repeat, if necessary, in two or three hours.

- (178) Extr. Grindeliæ Fl. .... 10. ( $2\frac{1}{2}$  dr.)  
Glycerini Pur. .... 20. (5 dr.)  
Teaspoonful three or four times a day.

- (179) Tr. Lobeliæ ..... 5. (75 min.)  
Aq. Amygd. Amar ..... 15. ( $\frac{1}{2}$  oz.)  
Twelve drops every hour until relief.

The combination of fat and iodine named iodipin has lately been used with the greatest success in bronchial asthma with emphysema.

- (180) Iodipini ..... 90. (3 oz.)  
Ol. Menth. Pip. .... gttss v. (5 drops)  
Teaspoonful three times a day.

The irritating cough in patients affected by asthma bronchiale, especially in emphysematous conditions, should always be attended to. Morphine is to be avoided, if possible. Instead, I recommend one of its derivatives—*e. g.*, dionin.

- (181) Dionini ..... 0.4 (6 grn.)  
Pulv. Ipecac. .... 1. (15 grn.)  
Amyli. .... 4. (1 dr.)  
Div. in pil. No. LX.  
From 5 to 10 pills a day according to need.

Or in solution:

- (182) Dionini ..... 0.6 (9 grn.)  
Aq. Amyg. Amar. .... 20. (5 dr.)  
From 15 to 20 drops at bedtime.

Heroin will in similar circumstances serve like dionin; but so many reports of its toxic effects have been published that I rather hesitate to recommend it.

Belladonna has a very prominent place in the armamentarium of asthma therapeutics and should always be combined with the other remedies.

- (183) Extr. Belladonnæ ..... 0.3 (5 grn.)  
Glycerini ..... 5. (1 dr.)  
Liq. Ammon. Anis ..... 10. ( $2\frac{1}{2}$  dr.)  
(Shake well before use.) Fifteen drops every three hours.

- (184) Ætheris ..... 2. ( $\frac{1}{2}$  dr.)  
Extr. Belladon. .... 0.05 ( $\frac{3}{4}$  grn.)  
Aq. Amyg. Amar. .... 5. (75 min.)  
Syrupi Aurant. Cort. .... 30. (1 oz.)  
Aq. Dest., ad ..... 120. (4 oz.)  
Tablespoonful every two hours.

In cases of severe dyspnea, the following has been recommended:

- (185) Solut. Oxycamphoræ Alco-  
hol. (50%) ..... 10. ( $2\frac{1}{2}$  dr.)  
Aq. Amyg. Amar. Dest. .... 4. (1 dr.)  
Spir. Vini Gallici ..... 20. (5 dr.)  
Aq. Dest., q. s. ad ..... 150. (5 oz.)  
Tablespoonful three or four times a day.

Also beneficial in dyspneic attacks is the following:

- (186) Potass. Iodidi ..... 0.12 (2 grn.)  
Fl. Extr. Euphorb. Pil. .... gttss. iii (3 drops)  
Tr. Lobeliæ ..... gttss. ii (2 drops)  
Ft. cum saccharo albo massa. Dr. ad. capsulas  
tal. dos. No. XII.  
Two or three capsules at a dose, two or three times a day.

A sensitive bronchial mucous membrane may be mechanically highly irritated by foreign substances suspended in the air (see under Bronchitis), and in asthmatic

subjects the conditions give rise to a certain form named hay-asthma. Pneumotherapy should first be tried, but if no improvement ensues patient may have to remove to another climate, where the air is purer and the surroundings as hygienic as possible. Menthol-chloroform inhalations or spraying of the nasal mucous membrane with suprarenal extract, with or without local anesthetics, is often of benefit.

**ASTHMA DYSPEPTICUM.**—Almost any dyspeptic disorder irritating the solar plexus may lead to asthmatic symptoms. Most frequent pathological conditions are catarrh, dilatation, nervous dyspepsia, etc., each of which should demand special attention (see under Catarrhus Ventric., Dilatatio, Dyspepsia, etc., dietetic suggestions and formulas).

**ASTHMA VERMICOSUM.**—See under Helminthiasis.

**ASTHMA UTERINUM.**—The diagnosis and treatment of gynecologic disorders leading to asthma should in general be referred to a good specialist. The young physician should always bear in mind the importance of a quick and radical extermination of a case of asthma, and therefore as soon as possible resort to the advice and experience of an able specialist. He will never regret such a precaution, and the patient will think the more of him for his conscientiousness. (See under Leucorrhœa, Endometritis, Dysmenorrhœa, etc.)

**ASTHMA SEXUALE.**—Most frequent among men, and often requires the skill and care of a specialist. In urethral irritation from strictures, prostatitis or impotence, a treatment with progressive sounds or cauterization of the pars membranacea: local applications of ichthargan by means of the endoscope or by Ulzmann's syringe; cooling séances with the psychrophor (also warm applications, 100° F.). Cold sitz baths, with good massage afterwards and general hygienic life, should always be advised. Conditions irritating to the sexual regions should be guarded against.

**ASTHMA HYPERHIDROSICUM.**—See Hyperhidrosis Pedum.

**ASTHMA DENTALE** disappears as soon as the tooth has cut through; if necessary, incision should be resorted to.

**ASTHMA CARDIACUM** (neurosis of the heart) may be beneficially influenced by thermic applications (hot-water bag, ice-bag, etc.) over the præcordium. For internal medication, see Neurosis Cordis, Tachycardia, Degeneratio Cordis, Dilatatio, etc.

**ASTHMA NEURASTHENICUM et HYSTERICUM.**—Two most important conditions that always should be "nipped in the bud," con-

sidering their possible development into serious and incurable forms of asthma. Here the éducation asthmatique (mentioned before) has its widest field and should always be preferred to other therapeutic methods. For hygienic and dietetic suggestions, see Neurasthenia and Hysteria.

#### *Intoxication Asthma*

In this type of the disease we always notice a more or less dyscratic condition of the blood, an abnormal nutrition due to impaired metabolism. In most cases there exists a pronounced stasis in the pulmonary circulation favoring catarrhal conditions; the patient is visibly cyanotic, nervously irritable, often in agony. This psychical disturbance should never be overlooked, being of high prognostic importance. The asthmatic attack in itself will often prove insignificant in comparison with this existing excitement, which must always be quickly attended to. Here, if ever, the éducation asthmatique may gain brilliant triumphs, a measure that always should be preferred to hypodermic injections of morphine, which in most cases of intoxication asthma is contraindicated and dangerous.

**ASTHMA CARDIALE** is always dependent upon some heart disease, if ever so slight. The pneumo-therapy named above will in most cases be of great service, relieving the stasis as it does in the pulmonary circulation. The mechanical expansion of the lungs produces a healthy stimulation on the heart-muscle, its pumping is facilitated, and the oxygen exchange soon restores the normal condition of the blood. In regard to proper medication, see Vitium Cordis.

**ASTHMA PLETHORICUM.**—See Plethora or Obesitas.

**ASTHMA RENALE.**—See Nephritis Interstitialis.

Finally I wish to draw special attention to those types of asthma that show intermittent symptoms. Such cases often defy even the keenest experts. In such doubtful cases, especially when combined with trigeminal or other neuralgias, the physician should always examine the blood for malarial plasmodia, and even if the investigation gives negative results, administer antiperiodics—quinine salts or euquinine in sufficient doses, phenocoll, eucalyptol, or, last but not least, methylene blue (Merck) if the other antiperiodics prove inadequate. The severest cases of asthma have more than once been benefited or eradicated by such a medication. The intermittent asthmas should, however, be treated repeatedly for a long while to prevent recurrence or relapse.

[TO BE CONTINUED]

## TREATMENT OF CANCER BY ESCHAROTICS<sup>1</sup>

By Chas. Ott, M.D.

CANCER is now a disease of frequent occurrence. Because of the long course it runs, the amount of suffering it entails and the fatal termination that invariably follows, if not properly and timely treated, it is one of the most dreaded of all the numerous diseases to which human flesh is heir. The author states, therefore, that he desires to say a few words about a method of treatment which has proven successful in many cases.

In every case of cancer there is a time when it may be considered a local disease. Consequently it may then be cured by local methods. The author goes farther and asserts that only such methods as remove the local lesions are effective. Much has been claimed for medicines, internally administered, but their efficacy is, to say the least, very doubtful. From personal observation he knows that they more often aggravate than improve the case, for anything that stimulates or irritates this neoplasm promotes its growth and consequently its extension to adjacent tissues or the transference of its cells to other organs of the body. He therefore ventures the assertion that internal medication may, at best, only be an adjuvant.

There are two methods for the removal of malignant neoplasms, the surgical and the escharotic. Both are successful if well done, and have their advocates. In our day, when the tendency to employ surgery wherever possible is so great, we may expect to find that the surgical method is the favorite with the profession. So it is, indeed so much so that the escharotic method has mostly been abandoned to the charlatans, who reap a rich harvest on account of this partiality of the profession. It should not be so. This method is perfectly honorable and effective and does give even better results than operative interference has produced in the days past, and should therefore receive the attention of those whose duty it is to do the best that can be done for their patients.

Surgery claims and has some advantages. It can be done quickly, painlessly and leaves very little cicatricial tissue. But when this method is employed, early recurrence of the neoplasm is the rule, not the exception. This fact can be established and easily proven by the confession of our most eminent surgeons. The escharotic method is more fortunate. When it is properly employed, this early recurrence is the ex-

ception and not the rule. The author knows of many cases where there has been no recurrence for five to twenty years. There is a reason for this. Cancerous growths tend to infiltrate the surrounding tissues and these infiltrations cannot be seen by the naked eye nor by the magnifying glass, unless properly mounted. If therefore the surgeon does not find it advisable to adopt Dr. Bernay's suggestion to remove a large amount of tissue seemingly healthy, he is very apt to leave behind a few of the cells, and recurrence must follow.

Observation has proven that many of the escharotics will not readily destroy healthy tissues. One of the most effective plasters can be applied to the healthy skin for days without producing anything more than redness or slight pustulation. Therefore it may be applied over the whole surface of the neoplasm and beyond and it will destroy the diseased tissue as far as it goes and when the end is reached it will stop. Here it is not the eye of the doctor, but the plaster which determines the extent of tissue that must be removed.

The procedure is not complicated. True, there are many formulæ for plasters, but we need only a few. Mostly one will be found sufficient. Arsenous acid has many friends. It is the one mostly employed by those who "take the cancer out with the root." This is not a recommendation unless we have to combat such theories or enter into competition with men of this type. It does kill off and preserve the nerves, blood vessels and lymphatics more than the connective tissues, hence the root-like appearance of the tumor where it becomes detached. Otherwise it has few advantages and some danger and is therefore not the best to employ.

Potassium hydrate (KOH) is the base of some other plasters or is used in a pure state. It will destroy all tissues and is therefore valuable in cases where there is much tissue covering the tumor.

The chlorides and sulphates of some metals are often employed. Chloride of gold, silver, paladium, chromium and zinc are mentioned. Zinc chloride is a favorite and is more often used than all the others together. It is the chief ingredient of many plasters that are used by "specialists" as "their plaster." It may be combined with different substances, to make a paste. Here follows an excellent formula that has stood the test:

Zinc Chloride.....	2 to 3 dr.
Powd. Sanguinaria.....	2 dr.
Powd. Hydrastis.....	2 dr.
Orthoform.....	20 grn.

Water enough to make a paste.

<sup>1</sup> St. Joseph Med. Herald.



This plaster will destroy the tumor, and do it with very little pain, and no toxic symptoms need be feared.

The procedure is very simple, and must be varied to suit the circumstances, persons and cases. If the skin is still intact, time will be saved by painting the surface, some time before the application of the plaster, with a 50-100 per cent. solution of caustic potash. If there is much tissue that is healthy, as may be the case in tumors deeply seated, a salve made after the following formula may at first be used:

Potassium Hydrate (KOH),...	2	dr.
Powd. Sanguinaria.....	2	dr.
Powd. Hydrastis.....	2	dr.
Orthoform.....	20	grn.

Water enough to make paste. Apply once a day.

When the tumor has been reached, the chloride of zinc formula should be used to finish the work. The plaster may be moistened during the day and should be renewed every twenty-four hours. Sometimes it may be desirable to remove the plaster sooner. This may be done and a little vaselin may be applied as a protective during the rest of the day. The plaster should be a little wider than the tumor; it should cover some of the apparently healthy tissue. After a few days, a line of demarcation is formed in small growths, but it may be best to continue the application for some time yet, for the deeper portions may not have been reached. We may find tumors of great depth or thickness that require some time to penetrate. Here we may keep on applying the plaster for weeks or we may find it best to let a part of it become detached and then renew the application, or lastly, we may remove the devitalized parts with the knife and thus facilitate the penetration by the escharotic. The last two procedures prevent us from having the tumor as one specimen for preservation. The time necessary for detachment is usually ten to twenty days.

After the detachment of the growth we must watch the healing process. Should any portion of the tumor have been left behind, characteristic granulations are apt to show. They differ from the healthy ones in not having a round, smooth surface, being more of the "cauliflower variety," and in growing exuberantly. Or it may be that portions of the tumor will not heal. In such cases the plaster must be applied again. The resulting wound is best treated according to the rules of antiseptic surgery. A few days after the detachment of the tumor the edges of the wound should be free from induration, and show but little inflamma-

tion. Should it be different, there is either a septic condition or an incomplete removal of the growth. These wounds heal usually with great rapidity and the cicatrix is small.

## BRONCHO-PNEUMONIA IN CHILDREN

By Alfred E. Shipley, M.D.

THREE anatomical varieties of pneumonia are met with in childhood—lobar, interstitial, and broncho-pneumonia—the latter being by far the most frequent, especially in infants. "Catarrhal pneumonia" and "lobular pneumonia" are synonymous with "broncho-pneumonia," while capillary bronchitis is best excluded from this variety, though numerous authorities consider them identical.

Broncho-pneumonia may be a primary affection, but oftener it is secondary to bronchitis and the infectious diseases, especially measles and whooping-cough. About one-half of all cases occur in the first year of life, and during the cold, wet seasons.

Various micro-organisms are responsible for the disease. The pneumococcus is found invariably in primary cases, and in secondary it is often present together with streptococci and staphylococci.

The pathological process, involving usually the posterior part of the lungs, especially the lower lobes and more frequently the left lung, is essentially one of productive inflammation, thus contrasting with the exudative inflammation of croupous pneumonia. This accounts for the irregular course, the gradual subsidence, and the tendency to chronicity which characterize broncho-pneumonia.

The clinical picture of the disease is sufficiently familiar. As most valuable symptoms may be mentioned: Disturbed pulse-respiration ratio, from 4:1 to 3:1 and even 2:1; continuous, intermittent or remittent fever; fine râles over a circumscribed area. The physical signs are subject to considerable variation. According to the extension of the process, we get coarse, subcrepitant, or finer râles, slight or marked dulness, merely roughened or bronchial breathing.

Several clinical varieties of the disease may be differentiated:

(1) *Acute congestive* sets in with great prostration, fever, hurried respiration, and generally proves fatal within a few days. Cough and physical signs are absent. Occurs oftener in young infants.

(2) *Acute disseminated* (capillary bronchitis), beginning with a temperature of

<sup>1</sup> *Brooklyn Med. Jour.*, xv, No. 10.

100° to 102° F., a full and rapid pulse, labored breathing, severe cough, coarse moist râles present, also subcrepitant râles. No evidence of consolidation. If not fatal within three to four days, recovery follows.

(3) *A common type.* Onset sudden or gradual; high temperature, marked dyspnea; pulse of 140 to 200, often irregular; distressing cough; gradual prostration.

(4) *Cerebral variety,* resembling meningitis; often without any pulmonary symptoms in the beginning.

(5) *Persistent cases.* Not uncommon in pneumonia complicating pertussis. Runs a protracted course and may lead to death from asthenia. The clinical picture often resembles that of tuberculosis, which disease may later on develop.

Diagnostically, broncho-pneumonia has to be distinguished from the lobar variety, from meningitis, severe bronchitis, pleurisy, tuberculosis, malaria, and congenital atelectasis.

The prognosis is serious, as the disease has a tendency to run a protracted course and to attack children already enfeebled by a previous illness. The death-rate in children under five years has been estimated at 30 to 50 per cent. It is about 10 to 30 per cent. in private practice; in hospitals, higher.

As to treatment, some preventive good may be accomplished by prophylactic measures in every case of acute bronchitis, pertussis or measles. The disease once established, we must provide for light, ventilation, and an even temperature of 68° to 72°. Pure air is of the greatest importance, and windows should not be hermetically sealed for fear of draught. The patient should have plenty of water or lemonade allowed him. The eliminating channels are to be kept active, flatulency or constipation calling for calomel. Opinions diverge widely as to the value of counter-irritation. The author is in favor of mustard plasters, followed by a good covering of cotton. He discards the heavy poultices. Neither does he employ the coal-tar products for high temperature, using cold water instead, in the form of a bath or cool sponge. The latter is suitable for cases presenting a good peripheral circulation. Weak and anemic children will not bear it well, but will do better in a hot-bath or a hot foot-bath.

Drugs are to be used sparingly in the early stages, preferably aconite in small and frequent doses. Expectorant mixtures are of no value. Pain and cough may call for codeine.

When the heart shows weakness, the time for stimulation has arrived. Strychnine, in

doses of  $\frac{1}{100}$  grn. to  $\frac{1}{60}$  grn., digitalis, strophanthus, and alcohol in the later stages, are all valuable. From  $\frac{1}{2}$  oz. to 3 oz. whiskey or brandy may be given in twenty-four hours, well diluted. Atropine has given good results in the author's hands, when used in cases with dyspnea and irregular breathing.

In protracted cases, tonics are indicated. Potassium iodide and cod liver oil are often beneficial.

## THE TREATMENT OF GASTRIC FERMENTATION<sup>1</sup>

By Allen Jones, M.D.

THE only reliable manner of telling whether or not fermentation is going on in the stomach is by direct examination of its contents. Eructation is a most unreliable symptom of fermentation, existing as it does more frequently in nervous disturbances of the stomach than in organic diseases of the organ. The treatment of fermentation differs according to the kind of fermentation found; whether it be lactic acid, acetic or butyric acid fermentation, or that form due to yeast or sarcina growth. If chronic gastric catarrh is present, it demands proper and continued treatment; but while that is carried out the symptom fermentation should be combated by diet and drugs. The diet varies with the chemistry of the stomach. If butyric acid is formed, fats should be withheld. If acetic acid is present, starches and sugars should not be allowed. Usually if no stagnation is present, this modification of diet is sufficient to correct the trouble. Lactic acid is not often formed in abnormal quantities unless free HCl is absent and many lactic acid-forming bacilli are present. In such cases HCl should be given, and if the disorder persists in spite of lavage, intragastric electrization and astringent lavements, pepsin combined with benzonaphthol, resorcin, bismuth salicylate or sodium hyposulphite may be administered. If with the fermentation there is uncomfortable flatulence, great relief is afforded by neutralizing the acids formed and simultaneously soothing the mucous membrane. In many cases of fermentation, though there may not be actual stagnation, such as results from pyloric stenosis, there is some delay in the propulsion of the contents into the duodenum. This happens in catarrhal conditions doubtless as a result of tumidity of the mucosa about the pylorus, coupled with more or less spasm. At all events, the patients are often made comfortable by taking the light car-

<sup>1</sup> *Internat. Med. Mag.*, x, No. 6.

bonate of magnesia or bi-carbonate of soda. The signal relief following the use of these simple old remedies is no doubt often accentuated by combining them with charcoal.

In treating fermentation due to hyperchlorhydria, we are, as a rule, dealing with marked pyloric turgescence and spasm, coupled with notable indigestion of starches. The diet should at once be rigid and enforced, consisting of meats, eggs and milk.

The question of allowing carbohydrates in this condition is a mooted one, but we have undoubtedly had greater success without them than with them during the active stages of the trouble. If pyloralgia and epigastric tenderness are present, it is best to put the patient on a milk diet for a few days. In this condition there is usually constipation, and the stomach refusing to allow its contents to pass freely and readily into the duodenum fills up with gastric juice at a time when it should be emptying itself.

The author does not know of any remedy for this state that compares in efficiency with the now well-known prescription he learned years ago from his associate, Dr. Stockton. It consists of 1 part of cerium oxalate, 2 parts of bismuth subcarbonate, and 4 parts of calcined magnesia. Of the mixture, from one-half to one teaspoonful should be given, stirred in a quarter of a glass of water, at 10 A. M., 3 P. M. and 9 P. M., or thereabouts. Flatulency subsides, gastric discomfort disappears, and the bowels are usually sufficiently opened, at times too much so; dose must then be reduced.

The foregoing may all seem merely the treatment of hyperchlorhydria, which it is in part; but it is quite necessary in order that later moderate quantities of well-cooked, thoroughly masticated, starchy foods may be taken. It is wholly useless to administer antiseptics and digestants in these cases. Lastly, we come to the conditions in which, before all others, grave fermentation is likely to take place, namely, pyloric stenosis, benign and malignant. At the outset we recognize that all efforts to combat fermentation in these cases are at best temporary, and no permanent relief is, as a rule, afforded until, by surgical means, food stagnation is overcome. If the microscope reveals excessive yeast growth in the gastric contents, it may be more effectively checked by salicylic acid than by any other drug. Usually 5 or 10 grm. in capsules are ordered to be taken after meals. Not infrequently vomiting and belching are checked, the microscope shows but little, if any, yeast growth, and the peculiar odor imparted to the stomach contents is greatly lessened or entirely disappears. Sarcinæ are

not so happily controlled by this drug, nor by any other. Lavage with potassium permanganate solution, 2 grains to the pint, is usually efficacious in cleansing the stomach, but in twenty-four hours the microscope shows the presence again of many bundles of the fungus.

The diet is of importance. Coarse foods should absolutely be prohibited, and the amount of food greatly restricted. Rest, rectal feeding, and but small quantities of tropon, plasmon, nutrose, somatose or other concentrated albuminous preparation per os may be demanded to control persistent vomiting and distress that are not infrequently present. In some cases of benign stenosis with an abundant secretion of hydrochloric acid, taka diastase serves a useful purpose when starches are allowed in the diet. This is also true of the drug, as has been pointed out by Friedenwald and others, in superacidity unaccompanied by pyloric obstruction.

Perhaps no disease is more hopelessly discouraging to treat than malignant stenosis at or near the pylorus. Lavage is indispensable in the medical treatment of its distressing symptoms. Here we have to deal with excessive lactic acid formation in not a few cases, sometime in their history, and the Boas-Kaufmann bacilli so uncommonly found in other disorders lend their aid in producing more fermentation and trouble. The lavish administration of hydrochloric acid is, in the author's opinion, the best means to control their multiplication and activity, aside from thorough lavage and the use in the wash water of silver nitrate, protargol, argentamine or other antiseptic astringents.

In a few of these cases starch digestion was distinctly promoted by a thick extract of malt and the functions of the stomach were assisted for a time by orexine tannate.

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EFFICIENT COMBINATIONS IN GASTRIC FERMENTATION.—Charcoal, 5 grn.; bismuth subnitrate, 5 grn.; resorcin, 2 grn.; aromatic powder, 1 grn.—for one powder. Or: Naphthol, 3 grn.; sodium benzoate, 2 grn.; magnesium, 5 grn.; powdered cinnamon, 1 grn.—for one powder or capsule. Or: Zinc sulphocarbolate,  $\frac{1}{4}$  grn.; sodium sulphocarbolate, 3 grn.; salicylic acid, 2 grn.; sulphur, 2 grn.; resorcin, 2 grn.—for one capsule or tablet.

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[ERRATUM.—The article, "Stypticin in Uterine Hemorrhage," by Dr. Boldt, which appeared in our November number, should have been credited to the *Journal of Obstetrics*. By an oversight, it was made to appear that the article was contributed directly to the ARCHIVES.]

# Progress in Materia Medica and Drug Therapy

## THE TREATMENT OF PNEUMONIA

The number of drugs tested and recommended in the treatment of croupous pneumonia is legion. But when we bear in mind that pneumonia is a self-limited disease, with a course and termination largely dependent on individual peculiarities, the difficulty of correctly estimating the value of results of drug treatment will become evident. The methods of management advocated in this disease are widely divergent, from the expectant plan to the incredible doses of digitalis used by Petrescu with alleged success.

Our greatest authorities are in favor of *laissez-aller* treatment in pneumonia, as more harm than good is frequently done by indiscriminate drugging.

Dr. James C. Wilson<sup>1</sup> employs the following method in his hospital service: The diet consists of milk and broths, varied by junket, custard, or light gruels. Ice cream and fruits are acceptable, especially in private practice, and are allowed in small amounts. One or two pints of milk and a pint of chicken or mutton broth in twenty-four hours are sufficient. Water is allowed freely, but not over 2 oz. at one time. Night and morning a sponge bath is given the patient, of a temperature according to indications. Early in the attack two or three large, flat ice-bags are applied to the affected side. They relieve pain, conduce to comfort, and lower the temperature to some extent.

From 4 to 6 oz. of whiskey are usually given in twenty-four hours.

A calomel purge is administered at the outset, either in a single dose, or, if nausea and vomiting are present, in fractional doses. The calomel may be repeated once or twice during the course. Morphine hypodermically is given for great pain. Dover's powder is a routine remedy, in 2 to 3-grn. doses, every two to three hours throughout the greater part of the attack. The aim is to produce slight drowsiness, thus controlling the pain, excitement and cough. Expectorants are seldom employed. Fresh aromatic spirit of ammonia and ammonium carbonate are occasionally resorted to. Aconite and veratrum are never given; digitalis only to meet special indications, as small, frequent, irregular pulse. Strophanthus answers still better in many cases. Strychnine and the nitrites, especially nitroglycerin, are given as cardiac stimulants

and to relieve the right ventricle. If they fail, and heart-weakness progresses, venesection is resorted to. In pulmonary edema, atropine is given hypodermically and often seems to avert a fatal issue. Dyspnea is an indication for oxygen, which should be allowed, fully diluted with air. Nervous symptoms and delirium call for increase of alcohol, ice to the head, and cold sponging or the cold pack. In young and healthy persons delirium tending to coma is treated by cold affusions to head and neck. Poulitices and cotton jackets are never used, the patients wearing a moderately heavy, loose-fitting merino undershirt. In delayed resolution, small flying-blisters are employed. During the crisis, stimulants like ammonium carbonate, alcohol and hot coffee are sometimes indicated. Under this treatment collapse is very rare.

During convalescence, tonics and a nutritious diet are given, meat being allowed as soon as the patient wants it. Rest in bed is not interrupted too soon, even if the patient desires to get up.

## MEAT ALBUMIN IN TUBERCULOSIS

Success in the treatment of tuberculosis, says Dr. F. W. Forbes Ross,<sup>1</sup> will always depend to a large extent on the correct solution of the problem of diet. It is well-known how refractory the defective alimentation of phthisis is to treatment. The ordinary dietary is often beyond the toleration of the consumptive. The author makes an eloquent plea for the administration of meat albumin in tuberculosis. He points out the contrast between milk albumin and meat albumin. While the former is taken up with very moderate rapidity and gives evident benefit only after large quantities have been consumed, the latter behaves altogether differently. Improvement follows its use quickly, and the benefit obtained is not so easily dissipated. Milk may be an ideal food in the young, but the adult needs muscle, and the proteid of muscle food is therefore better adapted to the requirements of this period of life.

These statements can be easily demonstrated by weighing tuberculous patients fed on either diet. It is possible that the superior effects of meat albumin are accounted for by its being a fixed and more highly elaborated form of albumin than the excretory albumin of milk. Or it may be that the low per cent. of iron in casein is re-

<sup>1</sup> *Phila. Med. Jour.*, VIII, No. 18.

<sup>1</sup> *Brit. Med. Jour.*, No. 2128.

sponsible for the difference, but any benefits derived from a milk diet will be assisted by the addition of meat albumins. These can be used as a raw-meat juice made from fresh meat, and used immediately after preparation. They may be prepared by mincing the meat and expressing it, or by the cold extraction process with saline solutions, which can be flavored with port wine, spices, etc.

Myosin albumin is promptly absorbed, does not tax the stomach, and possesses a high nutritive value, especially if combined with fresh milk or stimulating extractives.

#### METHYLENE BLUE IN OTITIS

According to Professor H. Gaudier<sup>1</sup>, instillations of a warm 2-per-cent. solution of methylene blue (medicinal) into the auditory canal render excellent service in the treatment of certain chronic forms of otitis media, especially in fetid otorrhea of children. The method employed is as follows:

After having cleansed the canal by means of a warm soap-and-water injection, the patient turns his head to one side, and 15 to 20 drops of the solution mentioned above are instilled into the ear. This procedure lasts five minutes, and during this time the patient performs the maneuver of Valsalva; that is, he makes a forced expiratory movement, while keeping nose and mouth closed. Air is thus forced into the ear, and the methylene blue passes from the canal into the tympanic cavity. Nine old cases, with perforation of the tympanum, treated in this manner, showed marked improvement. The deodorizing properties of methylene blue render it superior to other antiseptics, and the purulent discharge diminished under the influence of the remedy more rapidly than under other treatment.

In ordering methylene blue, emphasis should be laid upon getting a pure medicinal article, as there is a dye on the market of the same name.

#### TREATMENT OF PUERPERAL ECLAMPSIA BY SALINE INFUSIONS

Our knowledge of the pathology of puerperal eclampsia is, notwithstanding the frequency of the disease and the attention directed to it, still limited and confused. Consequently the treatment remains to a great extent empirical.

It is highly probable that eclampsia is an intoxication. A bacterial origin has been suggested, but no sufficient proof furnished. The toxin causing eclampsia seems to be a waste product of tissue metabolism, prob-

ably connected with the development of the fetus. The statement occasionally made, that albumen disappears in the urine after the death of the fetus, is disputed by Dr. Robert Jardine.<sup>1</sup>

Granting that a poisonous substance, a toxin, circulates in the maternal blood, we must *a priori* expect it to affect the fetus. As a matter of fact the fetus has been known to suffer with convulsions in utero, and the author has seen several cases of convulsions during the first days of the infant's life. He has also seen two children born in a rigid condition, suggesting death in a convulsion.

In the urine of the infant albumin has been found whenever the mother had eclamptic seizures, or even only albuminuria. From these facts it would seem that the toxin affects the child in the same manner as it acts on the mother. In the state of pregnancy an additional amount of excrementitious matter is accumulated in the mother's system, and to solve the problem of treatment we must consider the eliminating channels.

There is, first of all, the intestinal tract. As a rule pregnancy is associated with constipation, and eclamptic patients are known to have been obstinately constipated. Hence the utmost importance of purgation in treating this disorder.

Perhaps too much attention is being directed to the kidneys, the bowels not being sufficiently considered. The kidneys, though undoubtedly affected, are not seriously damaged, and unless an old nephritis were present, recuperate rapidly. Recently, the liver has been found to show considerable degeneration in eclampsia. It is highly probable that this organ has an important duty in eliminating waste products, although its exact mode of action still remains a matter of conjecture.

Now, as to treatment. Once having admitted the presence of toxic substances in the system, the indication is either to neutralize the poison or to eliminate it. We can have no antidote to the poison, not knowing the nature of the latter. Thus we must simply encourage the removal of all deleterious products through the natural channels—skin, kidneys, and bowels.

Could we keep pregnant women under control and administer our purgatives and diuretics in time, eclampsia would become a rare disorder.

When the seizures have commenced, our action must be prompt and energetic. Epsom salt in doses of 1 to 3 oz. should be given without delay—if necessary, through

<sup>1</sup> *La Sem. m.d.*, XXI, No. 43.

<sup>1</sup> *London Lancet*, No. 4059.

the stomach tube. Croton oil does not seem to be effectual in eclampsia. The author has given as much as 5 min. with no other effect than to cause edema glottidis.

To stimulate the skin-action, a steam-bath or a hot pack is most useful, while pilocarpine must be avoided on account of its depressing properties. Where edema of the lungs is present, the drug may even cause death. Diuretics given by the mouth cannot be relied upon, owing to the low absorptive powers in the stomach.

The author advocates saline infusions under the skin. One to three pints may be injected from a funnel or fountain syringe, and repeated, if need be, several times. The solution is prepared by dissolving 1 dr. of sodium chloride and 1 dr. of sodium acetate in a pint of sterilized water at 104° F. After the infusion, the amount of urine excreted rises to several ounces per hour (almost total suppression having existed before), and on the second or third day very large quantities are voided. The author firmly believes that the infusions control the convulsions. He is against the use of morphine for this purpose, as the drug seems to lessen the excretion of urine. In bad cases he intends to use oxygen in the future.

The obstetrical management varies in different hands. If the fits are ungovernable, the uterus is to be emptied, incisions into the cervix being resorted to, if necessary. Any bleeding from the incisions can only benefit the patient. Deep chloroform anesthesia is necessary to guard against shock. Statistical evidence, the author says, is distinctly in favor of his method. The mortality with it is considerably lower than with any other method of treatment.

#### VERATRUM VIRIDE IN PNEUMONIA

Dr. T. G. Stephens<sup>1</sup> has been using veratrum viride in pneumonia for forty years, and has learned to rely on the remedy. He considers American hellebore as superior to the majority of other preparations. Veratrum, says the author, is more efficacious in pneumonia than quinine in ague—certainly a strong statement! Out of fifty-four consecutive cases of pneumonia he is able to report fifty recoveries, with four "necessarily fatal" cases.

Veratrum viride has a predilection for the heart and the arteries, its primary action being that of a spinal and arterial depressant, lessening the frequency and force of pulse and respirations. Besides, the remedy exercises a diaphoretic action in

pneumonia, thus aiding in the elimination of toxins. The flow of urine is also increased by veratrum, and the bowels are usually relaxed.

But the chief benefit is derived from the drug during the stage of engorgement. It rapidly checks the inflammation and prevents extension of the process.

Untoward effects, like nausea, vomiting or hiccough, are generally caused by an overdose. The author knows of no fatal result from its use. No intricate formulæ are necessary, the medicine being easy to administer in its fluid state. Valvular heart diseases, fatty cardiac degeneration, gastritis, and peritonitis contraindicate its use. When crisis has occurred, the dose should be diminished.

The best preparation is Norwood's tincture, and the following combinations are efficient:

Tinct. Veratr. Vir. (Norwood's) 1 dr.  
Wine Ipecac (or Sweet Spr. Niter) 2 dr.

Begin with 10 drops in water every three hours, and increase by 1 or 2 drops each dose.

Or:

Tinct. Veratr. Vir. .... 1 dr.  
Comp. Syr. Squill. .... 2 dr.

Give as above in gum-water.

Or:

Tinct. Veratr. Vir. .... 2 dr.  
Tinct. Aconite Root. .... 1 dr.  
Syrup Tolu. .... 4 dr.

Fifteen drops every three to four hours, increasing 3 drops each dose.

#### STYPTICIN IN UTERINE HEMORRHAGE

Stypticin is chemically allied to hydrastinine. It is a yellow, crystalline powder, easily soluble in water. The drug is put on the market in powder and in tablets of  $\frac{3}{4}$  grn. each. Stypticin may be taken in comparatively large doses with impunity. No evil effects were noticed after the remedy had been administered for weeks. The same may be said of the subcutaneous exhibition of the drug, a method highly recommended in profuse hemorrhages. About  $\frac{1}{2}$  dr. of a 10-per-cent. solution should be injected into the gluteal muscles in such emergencies. Numerous reports have been published in evidence of the prompt hemostatic action of stypticin.

Dr. Alexander Schlossberger<sup>1</sup> contributes several corroborative cases of his own. He employed the remedy chiefly in endometritis of gonorrheal origin and in climacteric hemorrhages. Fld. extract hydrastis has failed in these cases. Stypticin was almost never relied upon in vain. The favorable action

<sup>1</sup> *Therap. Gazette*, XXV, No. 11.

<sup>1</sup> *Heilkunde*, v, No. 5.

usually appeared after six to eight tablets were taken.

Other authors have employed the remedy in pulmonary hemorrhage, in epistaxis, and especially in the bleeding after tooth extraction, with equal success. In the latter cases a 30 per cent. solution is applied on gauze or cotton, or a stypticin dental tablet is dropped into the bleeding socket. The average dosage is one tablet three times daily, increased to four to six tablets daily.

#### INJECTIONS OF GELATIN IN PLEURISY

Professor R. Bernard<sup>1</sup> has utilized the hemostatic properties of gelatin in order to transform hemorrhagic pleurisy into the simple sero-fibrinous form. The first attempt of this kind was made in a young soldier affected with pleuro-peritoneal tuberculosis, in whom two aspirations had already been performed and 3 quarts of the effusion removed. The condition of the man still remaining the same, Dr. Bernard tapped the pleural sac for the third time, and followed the operation by a subcutaneous injection of about 6 oz. of gelatin serum. Five days later a new aspiration produced about 5 oz. of hemorrhagic fluid, and six days after this only  $\frac{1}{2}$  dr. of a clear, greenish, and serous liquid could be obtained.

Three other cases were treated similarly, and the results were equally gratifying. The local and general reaction following the serum injection is transient. These injections have also been successfully employed in the hemoptysis of the tuberculous.

#### THE TREATMENT OF CARDIO-ARTERIAL DISEASE

The most common form of cardio-arterial disease is diffuse arterio-sclerosis, with a hypertrophied heart. The kidneys are also more or less involved in this condition.

The aim of the treatment, says Dr. H. J. Campbell,<sup>2</sup> is to restore the normal proportion of work to resistance in the circulation. No generally applicable rules can be laid down, each case demanding consideration.

Where the arterial condition is largely one of impaired tone or resiliency, while the heart is hypertrophied and failing, the object of treatment is to save the work of the heart. In these cases the heart often suffers from over-distention of the stomach, which causes dyspnea, oppression, and irregular cardiac action. The diet should in such cases be strictly regulated, very little fluid to be taken at meal-times. Small doses of nitroglycerin are beneficial. Rest in bed for a few days is an appropriate introduction

to the treatment. Baths and physical exertion on climbing stairs should be avoided. Strongly contra-indicated are massage, resisted movements, and, of drugs, digitalis, strychnine, and the other cardiac tonics. As in all forms of cardiac-vascular disease, regulation of the bowels is of prime importance.

In another group of the diseases in question, a hypertrophied heart has resulted secondarily in response to the increased resistance due to diseased vessels. Here the treatment should be different from the preceding group. The object is to *increase* the compensatory cardiac hypertrophy and at the same time lessen the resistance. Potassium iodide, regularly used, and strophanthus occasionally, give good results. Exercise and carbonic-acid baths are also beneficial, if the case is in an early phase. If sclerotic kidney is present, the blood-pressure will be high, and here an exclusive milk diet, with small doses of sodium iodide, is useful in lowering the blood-pressure, thus bringing about an amelioration of the symptoms. Alcohol is best avoided, or, if used at all, must be given in the form of well-diluted whiskey.

#### TREATMENT OF CHRONIC URTICARIA, OR HIVES<sup>1</sup>

The *Medical Summary* states that sodium salicylate and atropine sulphate, which are recommended by Unna as the most reliable remedies in chronic urticaria, often fail to produce the desired effect. Ichthyol, on the other hand, brings relief and cure. It should be given in from 1 to 2 grn. doses to children, and in 5 to 6 grn. doses to adults. At the same time an ointment should be applied to the affected parts, or even all over the body. The strength of the ointment should be about 2 dr. of ichthyol to an ounce of petrolatum in children, and  $\frac{1}{2}$  oz. of ichthyol to 1 oz. of petrolatum for adults.

#### IODIPIN IN FACIAL PARALYSIS

Dr. Norbert Rubenstein<sup>2</sup> reports a case of facial palsy treated with iodipin. The results obtained were strikingly brilliant. The patient, a man of fifty-eight years, showed a left peripheral facial paralysis and suffered moreover from paresis of the right extremities. Iodipin was prescribed, three teaspoonfuls daily of the 10 per cent. preparation, to be taken in sweetened wine. Ten days later symptoms of paralysis were gone and the patient was able to work. The case derives additional interest from the well-known tendency of facial paralysis to resist treatment for weeks and even months.

<sup>1</sup> *La Sem. méd.*, XXI, No. 43.

<sup>2</sup> *Brit. Med. Jour.*, No. 2128.

<sup>1</sup> *Med. Summary*, Oct., 1901, p. 239.

<sup>2</sup> *Medico*, 1901, No. 34.

**ALCOHOL IN SURGERY**

Dressings with alcohol were introduced in 1899 by Dr. Tamko<sup>1</sup> in the military hospital at Szegedin. The procedure is as follows: From six to eight layers of sterile gauze are soaked in alcohol and placed moist on the affected part. A piece of gutta-percha tissue, containing small holes, is placed next, and covered with a thick layer of cotton, a gauze bandage completing the dressing. A burning sensation is at first complained of, but is soon superseded by an agreeable sense of relief.

The dressing is changed every twelve hours, or in grave cases it may be wetted every four to five hours.

If the impervious layer is not perforated, the burning lasts much longer, and is much more intense.

Numerous cases of cellulitis, inguinal lymphadenitis, abscess, leg-ulcers, erysipelas, parotitis, etc., have been quite successfully treated in this manner. The chief disadvantage is the development of a local erythema in sensitive persons, but this may be to some extent prevented by applying vaselin to the skin surrounding the affected part.

**DIONIN IN OPHTHALMOLOGY**

Dr. A. Darier<sup>2</sup> contributes an extensive paper on the uses of dionin in ophthalmic practice. Dionin, in addition to its analgesic properties, exercises a favorable influence in many eye-diseases. It facilitates dilatation of the pupil whenever atropine fails to act promptly, it diminishes ocular tension in glaucoma, and it favors the resolution of pupillary exudates. Of ophthalmic derangements in which the remedy has shown itself beneficial, the following may be noted:

In subconjunctival ecchymoses, the application of a little dionin into the conjunctival sac accelerates the resorptive process and brings about a rapid cure. Hemorrhage into the anterior eye-chamber also shows a similar tendency to rapid resolution under the influence of the drug. In conjunctivitis the effects of dionin are very favorable, owing to its lymphagogue and eliminative action.

These properties render the remedy especially useful in corneal infiltrations. In recent and milder corneal affections the therapeutic action of dionin is proven by the improved vision and transparency of the cornea which follows its application. But even in chronic cases the remedy is very serviceable. In iritis, dionin often gives remarkable results, owing to its analgesic

and resorptive action. Besides these affections the drug is useful in many other eye-diseases, as choroiditis, retinitis, disorders of the vitreous humor, etc. As to the mode of application, a 5 per cent. solution will serve many purposes:

Dionin.....	8 grn.
Distilled Water.....	2 ½ dr.

One drop of this may be introduced into the eye, and the effects carefully watched.

An efficient combination with an anti-septic is the following:

Dionin.....	1 ½ grn.
Cocaine Hydrochlorate.....	1 ½ grn.
Solut. Mercury Cyanide (1:2000)	2 dr.

The following is indicated in corneal infiltrations and in parenchymatous keratitis:

Dionin.....	1 ½ grn.
Cocaine Hydrochlorate.....	2 grn.
Sodium Chloride.....	3 grn.
Solut. Mercury Cyanide (1:1000)	2 dr.

In iritis, atropine should be added:

Dionin.....	1 ½ grn.
Cocaine Hydrochlorate.....	2 grn.
Atropine Sulphate.....	½ grn. to 1 grn.
Distilled Water.....	2 dr.

When a contraction of the pupil is desired, the following is useful:

Dionin.....	1 ½ grn.
Cocaine Hydrochlorate.....	2 grn.
Pilocarpine Hydrochlorate.....	½ to 1 ½ grn.
Distilled Water.....	2 dr.

In glaucoma the addition of eserine is indicated instead of the cocaine:

Pilocarpine Hydrochlorate.....	1 grn.
Eserine Sulphate.....	½ grn.
Dionin.....	1 ½ grn.
Distilled Water.....	2 dr.

One drop five to six times daily into the affected eye.

This combination will promptly relieve the pain of glaucoma, and at the same time diminish the intraocular pressure.

**PHENOSALYL IN ULCERS**

Phenosalyl is a compound of carbolic acid, salicylic acid, lactic acid, and menthol. This mixture possesses antiseptic powers equal to those of mercuric bichloride, while being less toxic than the latter. Dr. F. T. Tchitcherin<sup>1</sup> experimented with the remedy in the treatment of gummatous and varicose ulcers. The obstinacy of these two varieties, especially the second, is sufficiently well known. The employment of phenosalyl has not disappointed the author.

His method consisted in applying to the edges and base of the ulcer a solution of phenosalyl in glycerin, varying in strength from 10 to 35 per cent., according to the duration of the ulcer. In varicose ulcers

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 18.

<sup>2</sup> *Revue des Cours de Méd.*, 6, 1901.

<sup>1</sup> *Pract.*, XXII, No. 35.



20 per cent. was the strongest solution used. No pain was complained of in gummatous ulcers, while in superficial varicose ulcers a slight tingling was mentioned in the beginning of the treatment. The results were most gratifying. More recent ulcers healed promptly inside of one and one-half to two months; older ones naturally healed more slowly. After the first applications a softening of the ulcerated edges could be noticed, the sides of the ulcer became more slanting, secretions ceased, and healthy granulations made their appearance.

Of course, this local treatment may be combined with antisyphilitic remedies in the gummatous variety of ulcers, but the efficiency of phenosalyl will often make the administration of mercury and iodine either wholly or partially unnecessary.

#### PHYSIOLOGICAL CURE OF THE MORPHINE HABIT

In 1890 W. O. Jennings,<sup>1</sup> M. R. C. S. Eng., published a book on the cure of the morphine habit, describing his methods of dealing with the disorder. He declares that up to that time no treatment of the craving existed founded upon therapeutic indications. The usual way of dealing with the patients was to withdraw the drug either suddenly or gradually. As a result many of the unfortunates died, some committed suicide, and the rest, after intense suffering, again fell victims to the drug.

The author's ideas derive a certain additional interest from the fact that his first observations were made on his own person. He found that the misery and wretchedness of the habitué were always intensified by certain dietetic and hygienic errors that he usually commits and that could easily be avoided. During the next ten years the observations accumulated and strengthened this view, and the author now states confidently that the morphine habit can often be prevented and cured, provided the proper line of conduct is strictly followed, and provided also that a cure is really desired by the patient. This is often not the case in those presenting themselves for treatment under pressure from relatives, etc. Such a habitué will invariably relapse as soon as his sufferings are alleviated.

There is a class of patients who desire to be cured and who even have no real craving, but suffer from an "hysterical neuro-mimetic craving." Great tact and caution are required in treating these cases. They should never know how much morphine they are taking; otherwise, if they hear of a reduction, distressing symptoms appear.

Supposing that we have a patient who is sincere in his desire to be cured, the first step for him to take is to renounce all liberty of action and to surrender his syringe and solution. Should the morphine be associated with another drug, the latter—which is generally a stimulant—must be suppressed at once. Alcohol or cocaine can be easily stopped, for as a matter of fact the morphine acts more strongly when the antidotal stimulant is withdrawn.

As to the choice of methods, the author has always advocated the gradual withdrawal of the drug. He thinks it is possible to wean the habitué by a sufficiently slow and gradual reduction without any other treatment. Of course it is necessary to individualize. The reduction must be slow enough to cause no distress.

However, other measures are at our disposal, and with docile patients a cure may sometimes be effected in ten days or two weeks. It is advisable to change the mode of exhibiting the drug as soon as possible. The rectal injection should be substituted for the hypodermic from the moment the patient is reduced to 2 grn. by the skin. Two grains seems to be the vital requirement. This quantity is absorbed; any surplus may be detected in the urine. As a rule, it is not possible to descend below 2 grn. without causing distress, and at this juncture the rectal administration should be resorted to, and double the dose given. Though 4 grn. will thus be taken, a great point is gained—the patient has renounced his syringe. The syringe is used on the slightest pretext; the rectal injection is an altogether different and troublesome affair. There is no sudden stimulation derived, the effect is gradual, the procedure inconvenient, and possesses none of the elegance and fascination of the syringe.

It is now that the appearance of any abstinence symptoms must be prevented, while a gradual reduction of the rectal doses is going on. Among the phenomena of vital depression following the suppression of the habitual stimulant, heart-weakness is prominent. Therefore, cardiac tonics are indicated in combating the craving for morphine. By overcoming the sluggish heart-action, the necessity for the stimulant is considerably lessened. Sparteine has shown itself most reliable in the author's hands as a cardiac tonic.

Another important factor is the hyperacidity of the stomach and organism, this suggesting the administration of sodium bicarbonate. The bicarbonate relieves the craving in so far as it is caused by hyperacidity, and this is not to be underrated.

<sup>1</sup> *London Lancet*, No. 4067.

The third of the author's therapeutic measures is the hot-air bath. He does not claim any extravagant value for this measure, as others have done who advocated it as a specific; but employed in combination with the other remedies mentioned, the bath is certainly productive of good results. These are largely due to the tonic and sedative influence of the procedure.

Such is the outline of Dr. Jennings' treatment. A moderate and non-alcoholic régime is insisted upon, and occasionally a hypnotic is administered, as the case may require.

The oft-repeated statement that a periodical revival of the craving assails the cured habitué is denied by the author. If the treatment has been properly carried out, restoration of health will follow. The patients rapidly gain in weight, and a general physical recuperation takes place.

The ex-habitué is advised to indulge in active exercise, to take regularly Turkish baths, and in every way strive to keep up and promote the tone of his system. In this manner the after-cravings will be effectually prevented.

The author reports in detail several cases in support of the soundness of his position.

#### SODIUM BICARBONATE IN SURGERY

Solutions of sodium bicarbonate are very useful in dressings applied to suppurating wounds. Dr. Casteret<sup>1</sup> advises the employment of a solution prepared by dissolving 1 to 2 oz. of the salt in a quart of water. Since alkaline media are favorable to bacterial growth, the water used should be boiled. The dressing should be moist and renewed every day in copious suppurations, and every second, third or fourth day as the severity of the process subsides.

It is well to combine antiseptics with the alkali, by first irrigating the wound with an antiseptic solution before applying the alkaline dressing. This method will cause an abscess or a periostitis of the finger to heal in from ten to fifteen days. Still better results are seen in superficial traumatic lesions. Some of these wounds, particularly those on the leg caused by the kick of a horse, are very slow in healing if treated with antiseptics alone. It would seem as if the antiseptic lowered still more the impaired vitality of the tissues, and thus prevented good cicatrization for several weeks. By means of a dressing of sodium bicarbonate, applied after an antiseptic irrigation, a cure is obtained in from fifteen to thirty days at the longest. Some contused wounds

have a whitish discharge. In these cases they should be washed with hydrogen peroxide, powdered lightly with iodoform and dressed with sodium bicarbonate.

In grave traumatism, involving the soft parts and the bones, antiseptics alone are at first indicated, and of these hydrogen peroxide is the best. When the dead tissue has thus been removed, the alkaline dressing is called for, and promotes healing by stimulating the vitality of the tissues.

In varicose leg-ulcers, antiseptics are only irritating, while sodium bicarbonate gives good results. The same may be said of burns. In suppurative skin diseases, like ecthyma, impetigo, etc., and in lymphangitis, dressings with this alkali are far more effectual than antiseptics.

#### URTICA DIOICA (NETTLE) IN UTERINE HEMORRHAGE

The nettle is an old remedy in folk-lore. French peasants use tampons soaked in nettle juice for nose-bleed, and the women drink the juice or employ it for vaginal douches in uterine hemorrhages. Quite a number of medical authorities have also recommended the nettle in various hemorrhages.

Dr. U. C. Kalabin<sup>1</sup> has tried the remedy in six cases of uterine bleeding. He gave it in the form of an infusion (about 2 dr. to 6 oz.), one tablespoonful every two hours. A very satisfactory hemostatic action followed. Experiments on dogs showed that nettle juice caused contractions of the uterus.

The forms of hemorrhages treated by the author were post-partum bleeding, menorrhagia, hemorrhage in cancer of the uterus, and hemorrhagic endometritis.

#### USES AND INDICATIONS OF IODIPIN

Iodipin, a combination of iodine and sesame oil, has the taste and color of sesame oil, and in no way betrays its high percentage of elementary iodine. Two preparations, of 10 per cent. and 25 per cent. strength respectively, are on the market; the stronger compound is used for hypodermic administration, the weaker is given chiefly by the mouth.

Dr. E. W. Baum<sup>2</sup> outlines the indications of iodipin as follows: First of all the drug is indicated as a substitute for potassium iodide, whenever the latter is not tolerated. The salty, peculiar taste of potassium iodide makes it objectionable to many. Moreover, acne, coryza, headache, and other

<sup>1</sup> *Bull. gén. de Thérap.*, CXLII, No. 13.

<sup>2</sup> *Vratch*, XXII, No. 35.

<sup>3</sup> *Therap. Monatsh.*, XV, No. 6.

symptoms of iodism are apt to follow. Not so with iodipin. Iodism scarcely ever appears, because the iodine is very gradually liberated from iodipin in the system. The taste is that of an oil and easily overcome.

Furthermore, the gastric disturbances which follow the administration of potassium iodide are unknown in iodipin. Instead of losing flesh, patients are seen to gain in weight. While being free from all objectionable features, iodipin is at least equal to the other iodides in the curative efficacy, as shown especially in tertiary syphilis.

Finally, the new remedy offers some variety of treatment, a point of great importance with chronic patients who often demand a change of medication.

Internally, iodipin is given in doses of three to four teaspoonfuls daily, and more, if necessary. Subcutaneously, the 25 per cent. preparation is employed in varying quantities. The site of injection may be anesthetized to prevent the pain. A third method of administration is by inunction, which, however, is hardly to be recommended, as iodipin is not absorbed through the skin to any extent.

In syphilis, the author says, iodipin is a specific. Besides, it is highly efficient in asthma, emphysema, chronic bronchitis, as well as in various nervous affections, like neuritis, neuralgia, sciatica, etc.

In a word, iodipin is indicated whenever potassium iodide is called for, and particularly as a substitute for the latter when the patient is intolerant or desires a change of medication.

#### PHENYL-HYDRAZINE TEST FOR SUGAR IN URINE

There are several methods of detecting sugar in the urine by means of this test, which is based on the discovery that hexoses, like all glucoses, combine with two molecules of phenyl-hydrazine on the application of heat, forming osazones.

Dr. John A. Mandel,<sup>1</sup> after numerous experiments with the several methods in use, prefers Kowarski's modification as sufficiently delicate for all clinical purposes, and speedily performed. He says that he has found the phenyl-hydrazine made by Merck to be excellently adapted for this test.

Kowarski's method is as follows: Five drops of pure phenyl-hydrazine are placed in a test-tube, and 10 drops of glacial acetic acid added. Then add 1 Cc. of saturated solution of common salt, which causes the mixture to solidify. To this, 2 to 3 Cc. of the urine is added and heated for two minutes. On cooling, a yellow precipitate falls,

showing crystals of phenyl-glucosazone. In the presence of over 0.2 per cent. sugar the precipitation occurs in a few minutes, while otherwise one must wait five to thirty minutes. The test readily detects less than 0.1 per cent. sugar in the urine.

#### THE TREATMENT OF UTERINE COUGH

In the treatment of cough it is generally considered that the expulsion of bronchial secretions is the chief aim to be attained, and for numerous physicians cough is almost synonymous with expectorants and opium. The reflex element is too often overlooked, as in the case of uterine cough.

The cough of pregnancy entails great discomfort, by interfering with sleep and provoking vomiting. It may even precipitate abortion. The treatment, says Dr. L. Archambault,<sup>1</sup> consists in rest in reclining posture and the administration of sedatives, like opium, viburnum prunifolium, etc. A sedative suppository may be applied to the cervix, made up as follows:

Extr. Opium.....	} of each, 1 grn.
Extr. Belladonna.....	
Cocaine Hydrochlorate..	

Make one suppository

Certain dry, rebellious coughs, occurring in amenorrhea, cease completely during sleep, thus conclusively proving their own reflex origin. In such cases nerve-sedatives, like the bromides and chloral hydrate, are indicated. Indian hemp, zinc bromide, and the valerianates are also serviceable; for instance:

Zinc Bromide.....	} of each, 8 grn.
Zinc Valerianate.....	
Zinc Oxide.....	
Confection Rose.....	to make 10 pills

Take 1 to 3 at a dose.

During menstruation, the cough should be treated with remedies intended to regulate the catamenial function, as apiol in doses of 1½ to 3 grn.; tincture of iodine, 10 to 15 drops; or ergot, witch-hazel, and others. For the laryngitis which supervenes in the beginning of menstruation, steaming, with menthol (menthol, 1 dr.; oil of melleuca, 15 min. in 3½ oz. of olive oil, of which a teaspoonful is added to a basin of hot water) is useful. Uterine asthma will require the preparations of belladonna and the nerve sedatives. If a metritis is present, appropriate local treatment will also relieve the cough or asthma. The author is in favor of zinc chloride irrigations, in 5-per-cent. strength for the cervix, and 2-per-cent. strength for the uterus. Polypi, or affections of the adnexa, call for their particular treat-

<sup>1</sup> *N. Y. University Bulletin*, 1, No. 3.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 18.

ment. If a uterine displacement is the cause of reflex cough, the organ must be replaced and retained in position by the various methods in use.

Concomitant symptoms, like pleurodynia, neuralgias, and the like, are best combated with analgesics, as antipyrine, phenacetin, and others. The author employs local applications with menthol, 15 grn. dissolved in 1 oz. of carbon disulphide, and citrophen internally:

Citrophen.....	8 grn.
Sodium Bicarbonate.....	8 grn.

For 1 cachet.

The possibility of a hernia as a result of persistent cough should be borne in mind.

To recapitulate, three indications should receive attention: diminish the reflex excitability of the central nervous system by means of opiates, bromides, etc.; treat the starting point of the reflex—that is, the uterus; influence the centrifugal tracts by means of lumbar counter-irritation with a blister, etc.; strive to produce some central inhibition by means of suggestion, change of surroundings, and the like.

#### TREATMENT OF PRURITUS VULVÆ

Vulvar pruritus in arthritics, in the gouty, in patients with Bright's disease, and in women during the menopause, occurs chiefly at night and is difficult to manage. Hot applications of sublimate or chloral solutions may be used, or lotions of cocaine.

The following is recommended by A. Robin and Dalche<sup>1</sup>:

Mercuric Chloride.....	1½ to 3 grn.
Ammonium Chloride.....	1½ to 3 grn.
Emulsion Bitter Almonds..	6½ oz.

To be applied on compresses.

A solution of bichloride, 1:250, is used by some, but is too painful. To anesthetize the mucous membrane the following dusting powder may be employed:

Orthoform.....	} equal parts
Diiodoform (or Iodoformogen)	
Talcum.....	

Or this ointment may be applied:

Menthol.....	1 grn.
Guaiacol.....	5 to 16 grn.
Zinc Oxide.....	2½ dr.
Vaseline.....	1 oz.

Tincture of aloes is sometimes efficient, as are also ichthyol in 15 per cent. ointment, carbolyzed vaselin, methyl salicylate in an ointment of 5 per cent. strength, cold water applications, cold sitz-baths, and electricity.

Occasionally lactic acid given internally will prove valuable. When it becomes necessary to check intestinal fermentation, the

author recommends erythrol tetranitrate, calcium fluoride, and calcined magnesia.

For butyric or lactic fermentation, ammonium fluoride is preferable:

Ammonium Fluoride.....	2 to 16 grn.
Water.....	to make 10 oz.

A tablespoonful with meals.

Hydrotherapy should be resorted to whenever feasible.

#### ICHTHARGAN IN GRANULAR CONJUNCTIVITIS

Dr. Falta<sup>1</sup> has obtained very gratifying results with ichthargan in the treatment of trachoma. This new remedy is a compound of silver and ichthyol, containing 30 per cent. of metallic silver. The combined astringent, antiseptic, and alterative properties of silver and ichthyol make this new preparation highly efficient. Compared with silver nitrate, ichthargan excels the latter in depth and efficiency of action. These properties adapt the drug particularly to the treatment of granular conjunctivitis, a disease which attacks the deeper structures of the conjunctiva.

The author has seen granular inflammation of the cornea disappear after three to four days of treatment with ichthargan, and he considers the latter as a specific in pannus. Infiltrations of the conjunctiva were also promptly removed with ichthargan, while the follicles of trachoma resisted the remedy. Generally speaking, however, no other simple remedy has given such excellent results in the author's hands.

Recent cases of trachoma may be completely cured with ichthargan in six to eight weeks; chronic cases show a marked improvement of the corneal vascular processes, and the curative value of the drug rises in proportion to the severity of corneal complications.

The author employs ichthargan in solutions of ½ to 3 per cent., according to the tolerance of the eye. Considerable pain follows the applications, especially in the beginning of the treatment. Children tolerate the cauterization better than adults. The solutions should be kept in a dark place, as light affects them, and gives them a darker color (fresh solutions are reddish-brown). The solution does not keep longer than four to six weeks. At the end of this time a sediment of silver oxide is noticed, and the solution is then unfit for use.

Solutions of ichthargan, like those of all silver salts, should be kept in dark, amber-colored bottles. Only distilled water should be used for the solution.

<sup>1</sup> *Les Nouv. Remèdes*, XVII, No. 19.

<sup>1</sup> *Vratch*, XXII, No. 23.

### TINCTURE OF BLUEBERRY IN THERAPEUTICS

The blueberry (*Vaccinium myrtillus*) has long been utilized as an astringent and anti-diarrheal remedy, given in the natural form or as an extract. It is also used for desserts and confections. Since the oldest times, numerous investigators have testified to the therapeutic action of the drug. Dr. Stephen Artault<sup>1</sup> has tried the remedy in leukoplakia and in stomatitis, and has obtained good results.

In one case, that of a woman aged fifty-two, whose malady had been diagnosed as *psoriasis linguae*, every kind of treatment proved a failure, until local applications of tincture of blueberry were prescribed, and prompt amelioration ensued. Although the cure was not permanent, the same remedy was equally efficacious in the relapses. Two other cases of leukoplakia were treated in the same manner, and also yielded promptly to blueberry tincture, applied locally several times daily.

Still more striking results were observed in the various forms of stomatitis.

In a case of ulcerative stomatitis in a child, following an attack of influenza, the remedy was ordered diluted with an equal quantity of glycerin, for fear of causing pain by applying the pure tincture. At the end of four days the cure was complete. A gargle of boric acid was employed in conjunction with this remedy, which was applied every hour. The same treatment gave equally gratifying results in another case of gangrenous stomatitis, and a rapid cure was also obtained in the aphthous form of stomatitis, as well as in other varieties. The remedy thus seems to possess specific qualities in affections of the lingual and buccal mucous membrane.

The author emphasizes the need of applying the pure or diluted tincture of blueberry very frequently, say every hour, as the abundant salivation usually present washes the remedy away.

### THE TREATMENT OF EPILEPSY

This is outlined by Dr. J. L. Bowman<sup>2</sup> as follows: Bearing in mind that one attack of epilepsy renders the patient more liable to another, our aim must be to prevent the first paroxysm. Rickets, dentition, and malnutrition are frequently the causes in infants, and by proper feeding the outbreak of epilepsy may be prevented. Great care is required during the acute infections of infancy to overcome the tendency to convulsions. Regular habits should be established

early in life, as another prophylactic measure. The disease once established, a search for a possible physical or psychical irritant is indicated, in order to lay the axe at the root of the evil. It is well to gain the patient's full confidence and inspire him with hope and cheerfulness. A minor surgical operation, performed when necessary, may also serve a useful purpose.

Special attention is to be directed to the general hygienic régime, as cultivation of regular habits, adherence to regular hours for eating, sleeping, exercise, bathing, etc. In no other disease is this "living by the clock" so important as an aid to treatment. In some patients any deviation, as the loss of several hours' sleep, is sufficient to precipitate an attack.

Many epileptics are voracious eaters, especially of meat. The author advises abstinence from meat. Proteid food in the form of eggs, milk, and vegetable products is preferable. The diet should be plentiful, but plain, all stimulating articles of food or drink being excluded. No alcoholic beverages, however light, should be allowed, as they have in some instances precipitated a relapse after an interval of months.

Moderate exercise is beneficial, the possibility of a seizure being always guarded against.

Baths play an important part in the management of the disease. A cold bath once or twice daily, followed by vigorous friction, is a necessity to the epileptic, acting as a nervous and vascular sedative, and stimulating the skin to activity, thus relieving the other organs. As mentioned above, any source of irritation calls for appropriate treatment. The eyes, ears, nose, and throat should be examined, and asthenopia, Ménière's disease, foreign bodies, adenoid vegetations, etc., should receive appropriate treatment.

Surgical treatment has its own indications, which have been formulated thus: An operation is advisable in (1) partial epilepsy, pointing to a focal lesion; (2) general or partial epilepsy caused by traumatic depression; (3) partial epilepsy following head injury, even in the absence of external lesions, when symptoms of an affected brain area are present.

Moreover, the disease should not have existed more than two years. Of course the removal of a cortical center is followed by paralysis of the corresponding muscles.

However, the results of operative interference are not very gratifying, the seizures sometimes reappearing after a lapse of years.

Besides removal of the diseased brain por-

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 20.

<sup>2</sup> *Med. Record*, LX, No. 15.

tion, it has been proposed to remove a portion of the cranium with the dura, so as to prevent the bone from being re-formed, and thus afford a *locus minoris resistentiae* for intracranial pressure. Resection of the sympathetic and stretching of the pneumogastric nerves have also been advocated, in harmony with individual hypotheses, but deserve no further consideration.

The internal treatment is largely one of bromide administration. The bromides lower the activity of the motor cells, and in large doses lead to a degeneration of the cortical cells, thus indirectly diminishing the number and severity of paroxysms. Sometimes the bromides act better when salt is largely withdrawn from the diet. Bromides in combination with increasing doses of opium are also recommended as specific, but the good results are doubtless largely due to the concomitant dietetic and hydrotherapeutic measures.

The bromides are always useful, and should be given in doses sufficient to reduce the central irritability. The salt or combination best suited to an individual case must be ascertained empirically.

At the same time the system should be stimulated by proper tonics, given along with the bromides. As such, digitalis, strychnine, arsenic and iron, belladonna and nitroglycerin, are reliable, inasmuch as they may correct a disturbance of the heart, kidneys, or blood.

Digestants are also indicated. Instead of the borax so often used, which seems to act only as a mild antiseptic, resorcin, salol or beta-naphthol may be employed. Salol has given the author excellent results, in one case relieving the patient from attacks for a long time. Intestinal antiseptics also counteract the untoward effects of the bromides. Occasionally, a dose of calomel is a valuable adjuvant.

In general, it may be stated that epilepsy is too complex a disease to have a specific remedy, and each case requires careful study.

As to the treatment of the attack, the patient should avoid all dangerous places and everything that may excite the convulsive seizure. Sometimes an emetic, given during the aura, will abort a paroxysm, as will also an inhalation of amyl nitrite, chloroform, or ether. When the spasm begins in the extremities, it may be checked by constriction above the part affected. During the attack the head should be turned to one side and a cork or similar body inserted between the teeth to prevent biting of the tongue. At night the patient should be watched, as numerous cases of asphyxia-

tion from burying the face in the pillow have occurred.

During psychic seizures, agents which lower blood-pressure, as atropine and pilocarpine, are beneficial. The status epilepticus is best treated by removing the patient to a dark room, away from noise and excitement, feeding him well, if necessary, through a stomach-tube, and administering bromides.

It is difficult to treat epilepsy in general practice, and the author is strongly in favor of homes and colonies for epileptics, where they can "enjoy life, earn a living, and at the same time receive the proper medical attention."

#### AIROL AS AN EXTERNAL ANTISEPTIC

Dr. B. A. Demidov<sup>1</sup> used airoi (bismuth oxyiodogallate) on about 200 soldiers, suffering with various external affections, such as wounds, ulcers, abscesses, etc. The conditions under which the applications of airoi were made were extremely unfavorable, the room serving as a dispensary being very dirty and dusty, etc. To compare the action of airoi with that of iodoform, the author used the two antiseptics alternately; or, if one patient happened to have two wounds or ulcers, one was treated with iodoform, the other with airoi. The latter was used either in the form of a powder, or as an ointment with vaselin and wool-fat, or suspended in glycerin. The results obtained from this abundant material have convinced the author that airoi possesses remarkable bactericidal power, as, in spite of the unsanitary condition of the surroundings, suppuration ceased rapidly, the acute inflammatory symptoms subsided, and the wounds assumed a clean, healthy appearance. The author calls attention to the following advantages of airoi: It is non-toxic, it is absolutely odorless, it does not irritate either the wound or the surrounding tissues; even when used for very long periods it causes neither inflammation nor eczema, as iodoform does.

#### TREATMENT OF EXOPHTHALMIC GOITER

Various methods of treatment have been advanced in this affection. The treatment of the present day includes the general management of the case, electro-therapy, drug-therapy, organo-therapy, and operative interference. Total or partial removal of the thyroid gland, ligation of the thyroid arteries, etc., have been practised. An ingenious method consists in removing the thyroid from a goat and feeding her milk to the patient. The idea is to neutralize the

<sup>1</sup> *Pratch*, Aug. 25, 1901.

toxic substances of excessive thyroid activity by those of cachexia strumipriva.

Thymus extract and thyroid extract have both been employed, with uncertain results. Drug treatment has made but slow progress. In accordance with individual theories, various remedies have been advocated, like digitalis, iodides, ergot, belladonna, quinine, etc.

In 1895 the use of sodium phosphate was suggested, on the grounds that the remedy does good in diabetes, and exophthalmic goiter resembles diabetes in being a disease of the medulla. Leaving these obscure theories aside, the new remedy proved efficient, and has found favor with the profession.

Dr. Joseph Sailer<sup>1</sup> treated two cases of exophthalmic goiter with sodium phosphate. In the first case 2 dr. were given daily at the outset, to overcome constipation, and 1 dr. daily later on. Improvement was undoubted. The second patient was also given sodium phosphate in the same doses, but an increase of diarrhea following, the amount was reduced to  $\frac{1}{2}$  dr. three times daily, given along with 10 drops of sulphuric acid. Here, again, the results were satisfactory. Although unwilling to jump at conclusions, the author thinks that cases not suitable for operative treatment will do best on sodium phosphate. The dose seems to be about 1 dr. to  $\frac{1}{2}$  oz. daily, if necessary, guarded by some mild astringent, as aromatic sulphuric acid.

#### INTRA-MUSCULAR INJECTIONS OF MERCURIAL COMPOUNDS

At a recent meeting of the California Academy of Medicine, Dr. G. Gross<sup>2</sup> read a paper on the above subject. He preferred calomel to other mercurial preparations, and used a glass syringe with a platinum-iridium needle about 2 inches long, which could be passed through the flame. The author claimed that the injections were not painful in themselves, but by the third day, very often, more or less severe pain and swelling was likely to develop. He thought that in order to pass judgment on this treatment one must give it a fair trial, with fair warning to patient, and the splendid results obtained would convert those who would persevere.

Dr. G. Caglieri, however, in discussing Dr. Gross's paper, stated that he did not think the author had shown any advantage in this method, and he thought there were decided objections to it; the injection always produced some pain, and sometimes violent pain. Six weeks before a man came

to him suffering from marked syphilitic manifestations, who had just given up treatment by another physician because he said he could not stand the pain of these intramuscular injections. Other methods of treatment, he thought, were equally as good and not so painful. Of these the intravenous injection method was probably the best. He described the technique of the injections and claimed that they were very easy of execution. He used a 1-per-cent. solution of cyanide of mercury in 20-min. doses daily for ten days, and then increased to a 2-per-cent. solution, gradually lengthening the period between these injections until used once a week. Dr. D. W. Montgomery said that he had but little experience with calomel injections, but that little had convinced him that bichloride injections were not so painful. He certainly would not use calomel in an ordinary case of syphilis, for one could get along very well with inunction or internal treatment. He had never used the cyanide of mercury. Dr. Gross, in reply, said that he had made a number of intravenous injections and had always found them painful. One advantage of the intramuscular injection was that the effect was more lasting. Regarding the pain, he said he had used the injections considerably and only remembered one case where the man did not come back. The method should be tried faithfully in order to prove its efficacy.

#### BROMIPIN

Among the newer substitutes for the bromides, bromipin easily takes the lead. Dr. J. Wolff<sup>3</sup> has given the remedy a trial in several cases, and recommends the drug to the profession in the highest terms. A substitute for the bromides becomes frequently imperative, either through symptoms of intolerance and irritation or through the necessity of affording the patient some variety, a point of great importance, especially in treating chronic nervous diseases.

The author's successful cases were epileptics and various other neurotics. Not the diminution in the frequency of the epileptic attacks, but the modification of the individual seizures was the gratifying feature. A considerably improved mental condition could also be observed. In general nervous debility, associated with headache, listlessness, and depression, bromipin in repeated doses of  $\frac{1}{2}$  to 2 teaspoonfuls often gave excellent results.

The author gave the bromipin in daily doses of 3 to 6 teaspoonfuls. The oily after-

<sup>1</sup> *Therap. Monthly*, 1, No. 5.

<sup>2</sup> *Jour. Amer. Med. Assoc.*, XXXVII, No. 17.

<sup>3</sup> *Allg. med. Central-zeit.*, 1901, No. 35.

taste may be removed by chewing a piece of bread or the drug may be administered in capsules, or in emulsion. No untoward effects were observed by the author. The digestion and the other bodily functions remain undisturbed throughout the course of treatment with bromipin. In fact, the general nutrition seems to be rather favorably influenced by the remedy, a fact which makes it still more valuable in hysterical and neurasthenic conditions.

#### THE TREATMENT OF ACNE<sup>1</sup>

In general, it may be remarked that the etiology of each case requires careful study. The part played by digestive and sexual disturbances in the production of acne is well known and often gives a clue to the treatment.

The different varieties of acne demand different treatment, which is thus outlined by Prof. Charmeil<sup>1</sup>: Ordinary "blackheads" must be first of all mechanically expressed by means of the small instruments in use for this purpose. To soften the skin and aid the procedure, the part should be washed with water as hot as can be borne, medicated with an alkali, like sodium or potassium carbonate, in 5- to 10-per-cent. strength; sodium bicarbonate, 5 per cent.; ammonium chloride, 5 to 20 per cent., or sodium borate, 5 per cent.

These solutions are well tolerated by sensitive skins. If more energetic remedies are desired, soaps medicated with resorcin or naphthol are serviceable, or a paste like the following:

Precipitated Sulphur .....	2½ dr.
Resorcin .....	75 grn.
Zinc Oxide .....	½ oz.
Wool-fat .....	5 dr.
Petrolatum .....	1 oz.

Or analogous combinations of naphthol, salicylic acid, ichthyol, etc., may be prescribed.

It is advisable to sterilize the skin by means of alcoholic lotions containing mercuric bichloride, ½ to 2 per cent., or resorcin, 5 to 15 per cent., to be applied at bedtime on cotton lightly soaked in the solution. This formula is well tolerated:

Resorcin .....	1 dr.
Cologne Water .....	1 pint

These lotions will prevent pustulation to some extent. At the same time constipation should be corrected, a plain diet prescribed, avoiding pastries and seasoned foods. In the neurotic, hydrotherapy is useful.

In the pustular variety of acne, sulphur

lotions are indicated, as in the following formula:

Precipitated Sulphur .....	6 dr.
Spirit Camphor .....	2 oz.
Rose Water .....	6½ oz.
Distilled Water .....	7 oz.

Shake before using, apply at night with a hair-brush, and wash off with hot water the next morning.

If the skin is intolerant, a simple anti-phlogistic treatment with mild antiseptic solutions should come first.

If the pustules are not conspicuous, as on the neck or back, they may be painted with tincture of iodine, which will often arrest the inflammatory process. In the face, the same effect will be obtained from a saturated solution of boric acid in alcohol.

Internally, brewer's yeast in doses of 1 to 2 teaspoonfuls before meals is good in some cases. Furunculosis or phlegmonous acne justifies surgical intervention with a fine scarifier, etc. Acne rosacea is greatly benefited by washing with hot water. Internally, the vaso-constrictors are beneficial:

Ergotin .....	1 grn.
Quinine Hydrobromate .....	1 grn.
Fl. Ext. Witch-hazel .....	2 min.
Belladonna Leaves .....	1/12 grn.

Make one pill. Four such pills daily, two with the two principal meals.

In most cases scarification will become necessary.

#### IODIPIN IN GOITER

Dr. Arthur Meyer<sup>1</sup> is highly satisfied with the results obtained from iodipin in bronchial asthma and tertiary syphilis. As iodine has been recommended in sclerosis of the middle ear, he thought he would give iodipin a trial in this affection. The patient had, besides her ear trouble, an enlarged thyroid gland, or goiter, of about the size of a fist. While no improvement could be noticed in the ear affection, the goiter at once began to diminish, until it disappeared altogether. The author then tried it in another case with the same satisfactory results. The 10-per-cent. iodipin was given in teaspoonful doses, three times a day. No by- or after-effects of any kind were noticed.

#### LYSULFOL

Lysulfol is a combination of lysol and sulphur, containing about 10 per cent. of the element. It is a very thick, black liquid, almost of the consistency of an ointment, perfectly soluble in water. Dr. E. Rumpf<sup>2</sup> has used it with success in various parasitic and non-parasitic affections of the skin.

<sup>1</sup> *Dent. Aerzte-Zeitung*, July 15, 1901.

<sup>2</sup> *Therap. Monatsh.*, Nov., 1901.

<sup>1</sup> *Rev. de Thérap.*, LXVIII, No. 18.



# MERCK'S ARCHIVES

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DECEMBER, 1901

THIS issue completes another year in the life of the ARCHIVES. We have never been given to blowing our own horn, preferring that our readers do that for us. Still, at the close of a successful year, a brief review of the work done, calling attention to some of our most distinctive features, is not only permissible, but even appropriate.

\* \*

OUR Editorials have been original articles in fact, and not in name only; most of them contained hints, at least, for original thought and research.

\* \*

IN our Original Papers as well as Selected Papers department we have had but one thought, one guiding principle in mind: the *practical* usefulness of the paper for the general, every-day practitioner. Papers containing mere theories or speculations, or dabbling in abstruse problems without bringing them anywhere nearer solution, have found and can find no place in the ARCHIVES. A simple enumeration of the titles of our original and leading papers for the present year will illustrate our statement more forcibly and convincingly than any words of ours could, and so here is the list:

**January.**—The rational treatment of pulmonary hemorrhage; treatment of typhoid fever; treatment of influenza in children; treatment of influenza in adults; new remedies introduced in 1900. **February.**—Guaiacol and its therapeutic uses; treatment of typhoid fever; the medicinal treatment of puerperal infection; formaldehyde and its combinations; iodine hypodermi-

cally in pulmonary tuberculosis; calcium iodate as an internal and external antiseptic. **March.**—The treatment of headache; the use of ice per rectum in narcotic and other poisoning; sulphur and its derivatives; acute catarrh of the intestines and its treatment; treatment of acute nephritis; the glucosides of digitalis; the treatment of infantile colic. **April.**—The therapeutics of ipecac; atropine in algid, pernicious malarial fever; treatment of scalds and dry burns; an essay on opium and its alkaloid morphine; the treatment of pneumonia; the true rôle of drugs in pulmonary tuberculosis; heart tonics. **May.**—Glonoin: its pharmacology, physiologic action, toxicology, and therapeutic uses; remedies, internal and external, for the relief of pain; suprarenal gland in peritonsillar abscess; three well-known drugs; treatment of chronic, non-exudative nephritis; cantharidin and its uses; local applications in gynecological diseases; formin hexamethylene-tetramine). **June.**—Nourishment by ordinary food; urea in the treatment of tuberculosis; the toxicity of acetanilid; thiosinamine: its pharmacology and therapeutics; an essay on opium and its alkaloid morphine; sodium or magnesium sulphate in dysentery; tellurium compounds: their toxicology and therapeutics; causation and treatment of gout; the modern treatment of epilepsy. **July.**—Some ancient therapeutics; treatment of rheumatism with acetyl-salicylic acid; treatment of typhoid fever; veratrum viride in various conditions of toxemia; simplicity in therapeutics; treatment of chronic exudative nephritis; treatment of tuberculous peritonitis. **August.**—Treatment of hemorrhage with gelatin; tissue-feeding medication; hemorrhage of the bowels in typhoid fever; treatment of blood-poisoning; treatment of cholera infantum; treatment of postpartum hemorrhage; treatment of intestinal obstruction with atropine; treatment of neurasthenia of toxic origin; the treatment of eczema as influenced by age. **September.**—Treatment of consumption at home; clinical value of some of the newer hypnotics; an index of diseases, with their modern treatment; expectant treatment; treatment of pneumonia; treatment of gastro-intestinal disorders in children. **October.**—Therapeutic management of alcoholic inebriety; therapeutics of tetanus; an index of diseases, with their modern treatment; hydrogen peroxide, cobalt chloride, and ferrous hydrate as antidotes in poisoning by potassium cyanide; the treatment of chronic diarrhea in children; pharmacology of caffeine; the various

methods of producing anesthesia. *November*.—Neurasthenic urethritis: its preventive and curative therapy; stypticin in uterine hemorrhage; an index of diseases, with their modern treatment; brief notes on thiocol and dionin; mercury: its action upon the system; the treatment of cystitis; causes, symptoms, and diagnosis of chronic intestinal catarrh. *December*.—Camphormenthol in the treatment of the nose and throat; index of diseases, with their modern treatment; treatment of gastric fermentation; treatment of cancer by escharotics; treatment of broncho-pneumonia in children.

It will be perceived even after a cursory glance at the titles, that *every* article deals with a subject of burning, living interest to *every* general practitioner.

\* \*

THE same rule has been persistently followed in our regular Abstract department. About 400 journals, printed in various tongues and coming from all parts of the world, have been carefully scanned and every article of value bearing on medicinal therapeutics has been translated and abstracted for the pages of the ARCHIVES. All new remedies of definite composition (no nostrums!) have been chronicled in our pages as soon as brought to public notice; and the abstracting, it will, we hope, be admitted, has been done intelligently and critically, with comments and criticisms wherever deemed necessary. In short, the statement that, so far as medicinal therapeutics is concerned, the ARCHIVES is the most complete and comprehensive journal published in America, will be coincided in by all who care to compare and to judge.

\* \*

IN our short editorials (or, as we prefer to call them, Editorialesques) we have made a special point of exposing and hitting the various fads and humbugs which thrive on our free soil with such unexampled luxuriance. Thus, during the year we had occasion to comment on the following topics: Diploma mills, anti-vaccination cranks, hazing, groundless charges against the regular medical profession, medical pirating and plagiarizing, the no-breakfast fad, the mono-pharmacy fad, the deplorable state of book-reviewing, the anti-corset crusade, and the raw-food fad. We also touched in that department on other interesting points, as the alcohol question, the neglect of therapeutics, dentition *per se* as a pathological factor, the quiz-compend question, the use of antipyretics in fevers, the con-

fusion as to normal and decinormal salt solution, the Virchow celebration, etc.

\* \*

IN our Queries and Answers department we have answered many a mooted point for our readers, and, as we have occasion to know from the expressions of our correspondents, it has given universal satisfaction. We take this opportunity to invite our readers to make free and frequent use of this department. When the query is of an urgent nature it will be answered promptly by mail.

\* \*

IN our Prescriptions we have from month to month given the most approved and rational formulæ for the treatment of various diseases—generally of those “seasonable” or prevalent at a given period.

\* \*

IN our Prescriptions we have from we have presented from month to month the most striking utterances and editorials from the best English and American journals, on topics not directly connected with therapeutics, but of interest to every thinking physician.

\* \*

OUR Book Reviews have always been fair, fearless, and unbiased. We did not hesitate to criticize adversely, nor were we slow to give liberal praise—as occasion, in our opinion, demanded. We never print the reviews written by the publishers for the convenience of the reviewer.

\* \*

OUR Miscellany department, which is a free gift from publishers to readers, has become a feature, expected with impatience and perused with eagerness. The serious and often dreary life of a physician requires occasional relaxation, a little fun and light reading; and this the miscellany has furnished quite liberally.

\* \*

Altogether, the relations between the ARCHIVES and its readers have been most cordial, and let us hope for a continuance, expansion, and strengthening of the same cordial relations. We, on our part, will leave nothing undone to increase the usefulness and attractiveness of our journal.

\* \*

In conclusion: A Merry Christmas and a Happy New Year! May the coming year contribute liberally toward your material and mental welfare, and may peace and happiness be yours in the fullest measure.

## Queries and Answers

Readers of "Archives" are invited to make free use of this department. Any query regarding drugs, be they a thousand years or a few days old—their dosage, medicinal properties, therapeutic applications, untoward or toxic effects, antidotes, incompatibles, proper method of administration, etc.—or any question regarding the medicinal treatment of disease, comes within its scope and will be cheerfully and promptly answered.

### Dosage of Sodium Cacodylate and Suprarenal Capsule

T. H. D. asks for full information regarding the doses of sodium cacodylate and suprarenal capsule.

When first introduced into therapeutics, about three years ago, the cacodylates were given in quite large doses—I, 3, and even 5 grn. being given per dose. After Wm. Murrell and other physicians had had unpleasant experiences with large doses, however, they began to administer the drug more cautiously, and the dose at present ranges anywhere from  $\frac{1}{10}$  to 1 grn. The latter dose is seldom exceeded now. Even in giving the smaller doses it is absolutely necessary to have a chemically pure product, as an impure one may contain some free arsenic or the arsenic may be in rather loose combination, thus becoming too quickly liberated in the system and causing untoward symptoms.

Regarding suprarenal capsule, the average dose is about 5 grn., though it may be given as high as 10 grn. It is seldom administered with any other agent unless it be a preservative or anesthetic. Thus, it is frequently prescribed with boric acid, cocaine, resorcin, etc. Like all animal preparations it needs to be well preserved, and the solutions must be freshly made at frequent intervals, as decomposition readily ensues unless an antiseptic agent be added.

### Percentage of Digitalin in Digitalis

H. B. A.—Please inform me as to the percentage of digitalin in digitalis. How much digitalin, for instance, must I give to equal 3 grn. of digitalis leaves?

The usual yield of digitalin from good digitalis leaves is from 4 to 5 per cent. The amount yielded by 3 grn. of digitalis would, therefore, be about  $\frac{1}{8}$  or  $\frac{1}{7}$  grn. While in many cases the percentage of yield of active principle from a plant gives a fair idea of the dose of the active principle, this cannot be said to be exactly the case with digitalis, as the latter contains, besides digitalin, a number of other active principles, the chief of which is digitoxin, a very important and very energetic glucoside. It must, therefore, be remem-

bered that digitalin does not absolutely represent the therapeutic virtues of digitalis, and the dose had to be established experimentally. Recent clinical tests have shown that the dose of German digitalin ranges from  $\frac{1}{10}$  grn. to  $\frac{1}{2}$  grn.

### Lecithin

Dr. F. O. S. asks for information regarding lecithin, to which he has seen references several times in recent medical literature.

Lecithin is an organic compound containing phosphorus; the element is chiefly in the form of glycerophosphoric acid, or combined with bases in the form of a glycerophosphate. It is found most abundantly in brain tissue, nervous tissue, semen, the leucocytes and the yolk of egg (the word lecithin is derived from the Greek "lecitos," which means yolk of egg). Its formula is given as  $C_{44}H_{90}NPO_8$ . While known chemically for many years, it is but recently that researches into its therapeutic value have begun to be made. Danilevsky and his pupil, Selensky, were the first to demonstrate the effects of lecithin upon nutrition (and, by the way, the Russian physicians are at present the foremost in the world as far as investigations on metabolism and nutrition are concerned). Quite a number of physicians, among whom may be mentioned Gilbert, Fournier, Lancereaux, Desgrez, and Ali Zaky, have reported recently on the employment of the drug in general exhaustion, neurasthenia, tuberculosis, and diabetes. The results were quite satisfactory. The dose is about 1 grain three times a day, in capsules. Trials with hypodermic injection of lecithin were also made by Serono of Turin.

P. N. N.—Is there any method or symptom by which we can predict or foresee the occurrence of perforation in typhoid fever? If I remember rightly, I read something to that effect in some medical journal.

Examination of the blood is considered a very valuable aid in giving us timely warning of the approach of that dangerous accident: there is almost invariably greatly increased leucocytosis, when the ulceration has progressed so deeply as to reach the peritoneal coat of the intestines. When rupture has taken place, leucocytosis is still more pronounced.

A. M. P.—In reply to your query as to codeine and the drug habit, we would say that no cases of codeine habit are found in medical literature, and it is therefore safe to assert that the drug produces no habit.

## Prescriptions

A collection of approved and reliable formulæ for the treatment of various diseases, usually those prevalent at the given season of the year. They are gleaned from the best periodical literature of the entire world, from the latest standard text-books on *Materia Medica* and *Therapeutics*, while some are contributed by our readers, who have tried them and found them effective in their daily practice. They are all carefully analysed before being submitted to our readers.

### Pneumonia

"To treat the patient and not the disease" has become a phrase hackneyed with use. It is nevertheless true, and to no disease is it more applicable than it is to pneumonia. In one case we may have to do absolutely nothing; may not use up five cents worth of medicine; in the very next case we may be called upon to use our utmost energy, to work untiringly and unceasingly, to administer perhaps a dozen drugs—by mouth, by rectum, by inhalation, by the hypodermic method, etc.—in short, we may have to utilize all our skill and knowledge in an endeavor to tide the patient through the danger period. This diverse therapy is due chiefly to two factors: first, to the widely differing virulence of various epidemics of pneumonia, and, second, to the markedly different effects which pneumonia has on different patients, such as strong, healthy and temperate young men on one hand, and the old, the debilitated, or the intemperate on the other. To speak, therefore, of the treatment of pneumonia as of a complete entity is ridiculous. We can speak of the treatment of the various stages of pneumonia, of the various symptoms and complications occurring during the course of pneumonia—that's all. A treatment of pneumonia as a disease *per se* does not exist.

In the first stage, in strong individuals, with full, bounding pulse, the following is indicated:

Tr. Veratri Viridis..... 3 iv  
Two to four minims every half hour, until 4 or 5 doses have been given.

Others advise to keep up with it until the pulse has become soft in character and greatly reduced in frequency.

Instead of the above, the following may be given:

Tr. Veratri Viridis..... 3 ijs  
Tr. Aconiti Rad..... 3 jss  
Spir. Æth. Nitrosi..... 3 iv  
Eight minims every half hour, until pulse is soft and reduced in frequency.

A calomel purge is usually indicated in the beginning; it may do very much good

and can hardly ever do any harm. It should be administered in one of the following combinations:

Hydrarg. Chlor. Mitis..... gr. vj  
Sodii Bicarbon..... gr. viij

Take at once.

Or:

Hydrarg. Chlor. Mitis..... gr. iij-v  
Pulv. Jalapæ Comp..... gr. x-xv

If a free and full evacuation does not follow in a few hours, a dose of some saline like magnesium sulphate or magnesium citrate should be administered, to complement the action of the calomel.

Dover's powder is a favorite remedy in pneumonia and is given in 5-grn. doses at rather frequent intervals—every three to six hours. It accomplishes several purposes: allays the pleuritic pain and cough, induces a gentle perspiration, allays cerebral irritation, and induces sleep. Occasionally the side pain is so severe that we cannot abstain from small hypodermics of morphine, but as a rule morphine should be withheld. A hot poultice to the chest—made of mustard, 1 part, and ground flaxseed, 3 to 6 parts—is very useful. On the subject of ice-bags to the chest in the treatment of pneumonia the profession is strongly divided; personally, we are not in favor of them. An ice-bag to the head, on the other hand, is very useful in cerebral irritation, delirium or hyperpyrexia.

If the cough is not excessive, is rather loose, and is followed by expectoration, it should be left alone. If, on the other hand, it is dry, harsh, and painful, and the patient is unable to bring up any mucus, it should be treated. Morphine is not suitable, as it locks up the secretions, and to have all the secreting and excreting functions working smoothly is of paramount importance in pneumonia. The three best sedatives are codeine, heroin, and dionin. Codeine may be given in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grn.; heroin (di-acetyl-morphine) in doses of  $\frac{1}{32}$  to  $\frac{1}{8}$  grn., and dionin (ethyl-morphine hydrochlorate) in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grn. A good combination is the following:

Dionini..... gr. iv-xij  
Ac. Hydrocyan. Dil..... 3 jss  
Creosoti Optimi..... m l  
Syr. Prun. Virg..... 3 j  
Aq. Amygd. Am., U. S. P., ad. 3 iij

Teaspoonful every three to six hours.

The expectorant mixtures as commonly prescribed are contra-indicated; they have too disastrous an effect on the digestion. Still, the ammonium compounds are frequently useful in liquefying the secretion and making its expectoration easier. The following are good formulæ, as, not being

nauseous and syrupy, they are not so liable to upset the stomach:

Ammon. Chloridi.....	3 ij
Vini Ipecac.....	3 iv
Glycerini.....	3 vj
Infus. Prun. Virg., ad.....	3 iv
Teaspoonful every two to four hours.	

Ammon. Carbon.....	3 i
Ac. Hydrocyan. Dil.....	3 i
Vini Antimonii.....	3 iv-3 vj
Tr. Opii Camphor.....	3 iv
Elixir Simpl., ad.....	3 iij
One dram every two to four hours.	

Or, liquor ammoniæ anisatus of the German Pharmacopœia may be given, in 3- to 5-min. doses, in a little water, frequently repeated.

The kidneys are too frequently overlooked by the physician in treating a case of pneumonia. We know how concentrated and small in amount the urine becomes in this disease; it is therefore important to maintain a gentle diuresis during the entire course. One of the best and safest diuretics is water, and whether the patient asks for it or not, it should be given at very frequent intervals. Never allow a patient to become parched, but it is best to give small quantities at a time—as one can see very obstinate and sometimes uncontrollable hiccoughing arise from the gulping down of a large amount of liquid. As a diuretic the following is mild, safe, and soothing:

Potas. Citrat.....	3 ii-3 iij
Syr. Ac. Citrici.....	3 i
Infusi Lini.....	3 vj
Tablespoonful every hour.	

Or the following more energetic mixture may be given:

Sparteina Sulph.....	gr. iv-vij
Spir. Ætheris Nitr.....	3 i
Potass. Citr.....	3 iij
Ext. Tritici Fl.....	3 i
Liq. Ammon. Acet.....	3 iv
Syr. Rub. Idæi, ad.....	3 viij
Tablespoonful every two or three hours.	

We now come to the all-important question of cardiac stimulants. In some cases none are required during the entire course of the disease—and it ought to be a rule that if the second pulmonic sound is well accentuated and the pulse is regular, no cardiac stimulants should be administered, or only very sparingly. If, on the other hand, the second pulmonic sound becomes weak; if the pulse is irregular; if cyanosis, perhaps, makes its appearance and the patient becomes restless and delirious, cardiac stimulants should be administered boldly, though, of course, watchfully. What cardiac remedy should be selected? For many years digitalis was considered the remedy par excellence in pneumonia, and it was given in heroic doses. Of late years, in

this country, at any rate, strychnine has become the favorite, given in doses of  $\frac{1}{60}$  to  $\frac{1}{20}$  grn. at rather frequent intervals, every two to four hours. Many physicians prefer to administer it hypodermically, and its effect is certainly more rapid and more pronounced administered in this way. This is only feasible, though, in hospital practice or where there are trained nurses in attendance; in ordinary practice we must generally recur to internal administration. The following is an eligible formula:

Strychninæ Sulph.....	gr. i
Elix. Simpl.....	3 iss
Aq. Amygd. Am., U. S. P., ad..	3 iv
Teaspoonful every two to three hours.	

If digitalis is chosen, it should be given in the form of a freshly prepared infusion—dose, 2 to 4 drams every four to six hours—or in the form of its chief glucoside, digitalin, the dose of which may range from  $\frac{1}{8}$  to  $\frac{1}{4}$  grn. But whichever preparation of digitalis be selected, we must not forget to administer it in conjunction with nitroglycerin. Digitalis possesses a great disadvantage: while it increases the force of the heart-beat, it at the same time contracts the arterioles, and the latter effect is just what we want to avoid in pneumonia. Nitroglycerin overcomes this objection, as it is a pronounced vasodilator. It may be given in tablet form,  $\frac{1}{100}$  grn. every hour, or in solution.

Spir. Glonoini.....	3 i
Spir. Vini Gallici.....	3 ij
Tr. Cardam. Comp.....	3 ij
Half to one teaspoonful every hour or two.	

The nitroglycerin must be administered at much shorter intervals than the digitalis, because the effect of the latter lasts for several hours, while the effect of the former is very fugacious.

There is one drug which we must not omit to mention, as it has been reported on very favorably during the past year. Some go even so far as to consider it a specific. We refer to creosote carbonate. It should be administered from the very beginning of the disease, in doses ranging from 3 to 10 min., several times a day. Either one of the following may be used:

Creosoti Carbon.....	3 ij
Ol. Olivæ.....	3 iv

Divide in caps. No. xxiv.

One or two capsules three to six times a day.

Creosoti Carbon.....	3 ss
Saponis.....	3 i
Pulv. Althææ.....	3 ss

Divide in caps. No. lx.

One or two capsules three to six times a day.

Creosot. Carbon.....	3 iiss
Spir. Frumenti.....	3 i
Elix. Simpl.....	3 i
Tr. Cardam. Comp., ad.....	3 iv

Teaspoonful three to five times a day.

## Of General Interest

The best thoughts from our contemporaries on general medical and allied subjects

### A Protest Against Operative Intemperance.

—It is now one of the commonplaces of presidential addresses and other periodical records of advance in the healing art that progress during the last quarter of a century has to a large extent consisted in the gradual annexation by surgery of territory which used to belong to medicine. In this way have been gained most of the splendid victories over diseases before which our fathers could only fold their arms in a futile "meditation on death." A policy of "blood and iron" was needed for the expansion of our medical empire, and the gratitude of all mankind is due to the bold pioneers who, sometimes at the risk of their professional lives, have cut their way through difficulties and dangers which would have dismayed weaker men. This kind of work can be done only by enthusiasts; and enthusiasm, like other good qualities, tends to run into excess. Hence a pioneer in surgery is sometimes too apt to see a vision in the sky telling him to conquer in the sign of the knife. Others naturally see like visions, and the result is often a kind of rivalry in operative enterprise which might lead an ignorant onlooker to suppose that the competitors were striving which should put to the largest use the privileges that, according to the satirist, are granted them by the law *perçandi, taillandi, coupandi, brulandi et*—shall we say? *mutilandi*.

More than twenty years ago Verneuil denounced the *furor secandi* in general surgery which was then only in its incipient stage; three or four years ago Sir William Priestley raised his voice in solemn condemnation of overoperating in the field of gynecology, and quite recently Sir Felix Semon in two lectures delivered at the London Polyclinic and published in the *British Medical Journal* of November 2nd and 9th, has thought it necessary to make a strong protest against excess of operative zeal in the sphere of diseases of the throat, nose and ear. That some plain speaking on the subject was required has been known for years to those behind the scenes of those particular branches of special practice; but the matter is a delicate one to touch. Outside criticism might not unreasonably be disregarded by those interested as being based on insufficient knowledge; and inside criticism is open to the charge of being inspired by the *invidia medicorum*, which according to the proverb, is the worst form of that ignoble vice. A man was needed who could speak with the authority of a scientific leader, and whose position in the profession placed him high above the suspicion of any personal motive. Such a man we fortunately have in Sir Felix Semon, and the thanks of the whole profession are due to him for having come forward to discharge what must have been a most unpleasant task. Though he speaks only of the abuses of local treatment in affections of the upper air passages, his words are capable of a much wider application, and may profitably be read, marked, and inwardly digested by operative specialists of all categories, and also by general surgeons.

We cannot follow Sir Felix Semon through all the heads of his important deliverance; we need only call attention to one or two of the chief points on which he insists. At the outset he is careful to make his position in regard to local treatment quite clear. No reasonable person, he says, can

object to the removal of a nasal obstruction which almost entirely prevents breathing through the nose, and causes dry pharyngitis, with great liability to laryngeal and bronchial catarrh; to radical operative treatment of a chronic frontal sinus empyema, which produces violent frontal headache, gastric symptoms, and grave disturbances of the general health, making life unbearable; to the removal of adenoid vegetations, which seriously interfere with a child's breathing and hearing, and gravely impair his chance of growing into a strong and healthy man; or to the removal of a laryngeal papilloma or fibroma which makes the patient voiceless, and places him in imminent danger of suffocation. But he emphatically declares that not every little crust or spur of the nasal septum requires the saw, the chisel, or the trephine; not every little puffiness of the mucous membrane over the turbinated bones, the cautery or the snare; not every little bunch of adenoid tissue nor every tonsil which slightly projects needs removal; not every granulation or visible vein on the posterior wall of the pharynx requires the cautery, nor does every uvula that seems rather longer than it should be need to be curtailed.

With regard to adenoids, Sir Felix Semon relates a curious chapter of medical history, which has a moral applicable to many things of wider importance. Wilhelm Meyer's discovery, though announced to the profession in this country in 1870, attracted no notice whatever. Sir Felix Semon tells us that in 1881 a leading physician asked him what adenoids were; and we may add, that about the same time Sir William Jenner, with the frankness which was one of his finest characteristics, bluntly stated on a diagnosis of postnasal growths being suggested to him that he had never heard of them. If this were the case in the green tree we may conjecture what it was in the dry. At a later date even specialists of note denied—sometimes with curses—the existence of adenoids. Gradually, however, the truth prevailed, and soon the little masses of lymphoid tissue came to be, like the world, "too much with us." They were held accountable not only for their own misdeeds, but for a countless brood of reflex neuroses—asthma, epilepsy, and what not—with which they had no more to do than the Goodwin Sands with Tenterden Steeple. The removal of adenoids, real or supposed, became the fashionable cure for most of the ills that childish flesh is heir to. When everybody operates there must needs be some bungling; and soon whispers of deaths were heard which found voice in a statistical statement published in 1896, showing that in a period of two years and a quarter eleven deaths had been reported in England alone. For this result the anesthetic was blamed by some, and rapidity of execution became the aim of the operator. Recurrence, which at one time was almost unknown, became painfully frequent, and the operation lost the favor which it formerly enjoyed with the public, and was in some danger of being discredited in the eyes of the profession. An eminent surgeon publicly anathematized it, and maintained that all that was necessary could be done by "breathing exercises," though we confess to sharing Sir Felix Semon's perplexity as to how a mechanical obstruction to the passage of air through the nose can be removed by respiratory gymnastics. Summing up the question of adenoids, Sir Felix says that growths, in cases in which they cause definite symptoms, should be removed; when they give rise to no symptoms they should be left alone. In a third class of cases the lymphoid tissue is liable

to a periodical swelling, which causes trouble till it subsides; here it is often difficult to know whether or not to operate, and the practitioner may be justified in temporizing. As to reflex neuroses, Sir Felix Semon is utterly sceptical; such disorders may coexist with adenoids, but the removal of the latter has, in his experience, no effect in relieving the former.

It is in the interior of the nose, however, that operative fanaticism finds fullest scope. As Indian philosophers strive to solve the riddle of the universe by the contemplation of their own navels, so some rhinologists seem to hope to find the secret of all diseases by fixing their attention on the nose. To them that feature is, in a pathological sense, the "center of our sinful earth." In their eyes it is like a slumbering volcano, which may on the slightest provocation burst into devastating activity. Sir Felix Semon gives a formidable list of morbid reflex phenomena that have been attributed to some supposed center of mischief within the nasal fossæ. There is no organ, scarcely even a point, in the body that may not, in the opinion of some "advanced" rhinologists, be the seat of pathological manifestations radiating from the nose. In the light of this theory its devotees are necessarily suspicious of the slightest deviation from normal conditions, and accordingly they think it right to attack the root of the evil, as it were, with fire and sword. If the nose were really the source of such disturbance in the human economy, the shortest way would surely be to remove it; and, indeed, as far as the interior is concerned, that consummation has almost been reached in certain quarters.

Sir Felix Semon has opportunely come to the rescue, and we trust his remarks will have the effect of saving the nose from meddlesome surgery and from artistic zeal of enthusiasts who apparently think it their mission to shape ends which have only been rough-hewn by the divinity. The late Bishop of London in a sermon delivered to the St. Luke's Guild some years ago referred to the "marvellous prospect open to the medical man" by the doctrine of the resurrection. The marks of the surgeon's skill would, he said, be stamped on certain human frames, to be carried by them into eternity. His lordship thought this view would give the surgeon a higher sense of responsibility. It is undoubtedly a consideration likely, as Touchstone says, to make a man stagger in the attempt to cure all diseases with the "spoke-shave." The possibility of their own handiwork rising up in judgment against them at the last day may perhaps stay the hand of some too eager operators.

We do not wish to be understood as wishing in the slightest degree to depreciate the excellent work done in laryngology, rhinology, and otology of late years, and we are proud of the share taken by our countrymen in the progress that has been achieved in those branches. If there has been some excess of zeal, this is the defect of a quality. It is largely a matter of temperament. If we may follow Sir Felix Semon's example, and quote Gilbert, we would remind him that

Ev'ry boy and ev'ry gal  
That's born into the world alive,  
Is either a little Liberal  
Or else a little Conservative.

The "little Liberal," if he takes to surgery, will be bold in the active reform of whatever appears to him to be wrong in the nose or elsewhere; the "little Conservative" will conserve. But, just as the reformer may be too active, so, on the other hand, the Conservative may be too inactive. The true rule of practice lies between.—*Brit. M. J.*

**On Coming Back.**—The proper conduct of a holiday is a subject upon which many writers have expatiated from different aspects. We have pointed out in these columns the futility of making a holiday only a change of work, and have urged upon persons no longer in their first youth to refrain from rushing to Switzerland, immediately to climb mountains regardless of the facts that their arteries are no longer so elastic as formerly and that their heart muscle is somewhat more easily tired than of yore. But if the change from work to play has its dangers, so also has the return from holiday-making to the daily grind of professional or office work. The change in methods of life is not properly appreciated, and in the desire to extend the holiday to its utmost limit the return journey is apt to be made at the greatest possible speed, so much so that we know of certain instances where the repatriated travelers have been compelled to rest for a week to recover from fatigue. But allowing that the holiday has been a real holiday, a time of rational enjoyment and of healthful exercise duly adjusted to the physical condition of the holiday-maker, the return to work is often accompanied by attacks of ill-health. It is not at all uncommon in our experience for those who return to London (or to any large city) from a country holiday to complain of suffering from a form of sore-throat. The explanation of this is probably to be found in the presence of dust in the air; and this dust, in London at any rate, is mainly composed of horse-dung, particles of wood, and the various débris to which four or five millions of human beings constantly moving about naturally give rise. All this foreign matter sets up an irritation in the air-passages and pharynx. After a residence of some weeks in the midst of a more or less polluted atmosphere the tissues get acclimatized to the irritation and the cough and sore-throat subside, but they are one source of malaise which has to be looked for after a holiday. We do not suggest that, because continued residence in a large town begets a certain amount of tolerance, therefore it is of no avail to go away; for although a holiday may make the tissues more responsive to external irritation yet the same holiday increases the resisting powers of the body, so that it repels with greater ease the attacks of other poisons. Therefore too much importance must not be laid upon the fact that many persons who felt in robust health while away on their holidays, upon returning have the sensation of being worse in health than they were before they went away. Their natural disappointment at these sensations can as a rule be justly removed by a few optimistic words. Yet again, too little is made of the change from active exercise to sedentary life. From passing most of his time in the open air engaged in some form of exercise a man turns suddenly to working in an office or study—in the case of members of our own profession to going from one sick-bed to another. There is no section of the community so notoriously careless of its own health as is the medical profession, and while its members would impress upon the returned worker to avoid errors in diet we doubt whether it is their habit to be careful themselves in this respect. It cannot be too much insisted on that, although on a holiday a large breakfast, a large luncheon, and a large dinner may be partaken of with impunity, under the altered conditions of the working life no such heavy feeding can be right. To a man employed in fishing or shooting most of the day, or to one who spends his time in walking or bicycling, a dose of alcohol may give a feeling of contentment as well as wholesome slumber at night, which it will completely fail to do when the daily round of work is taken up again.—*Lancet.*



## Book Reviews

**THE ROENTGEN RAYS IN MEDICINE AND SURGERY AS AN AID IN DIAGNOSIS AND AS A THERAPEUTIC AGENT.** By Francis H. Williams, M.D. We well remember the day when Roentgen made his first demonstration of the wonderful rays which he, with becoming modesty, named X, but which many other people quite properly preferred to call the Roentgen rays. We happened to be in Berlin at the time, and for many days to come this was the only topic of discussion, especially in the University, in hospitals, and in scientific circles. The hopes then entertained—not by the inventor or true scientists, to be sure—that the employment of those rays would work a radical revolution in medicine and surgery, have not been fully realized; but even making due allowance for all the failures, sufficient is left to justify one in declaring the Roentgen rays the greatest discovery of the last decade of the nineteenth century. The book we are now considering is the best on the subject; we are not aware of any other approaching it in thoroughness and completeness. It forms a magnificent volume of over 650 pages, profusely illustrated (391 illustrations) and luxuriously printed. We are pleased to see that the author is not a crank on the subject, and does not make any extravagant claims for the X-rays as a therapeutic agent. The statements are moderate and well considered, and the entire exposition of the subject has been made in what seems to us a scientific and impartial spirit. We warmly recommend the volume to any one engaged or about to be engaged in X-ray work. (The Macmillan Company, 66 Fifth avenue, New York. Price, \$6.)

**DISEASES OF THE INTESTINES.** Their Special Pathology, Diagnosis, and Treatment. With Sections on Anatomy and Physiology, Microscopic and Chemic Examination of the Intestinal Contents, Secretions, Feces, and Urine. Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics; Diseases of the Rectum, etc. By John C. Hemmeter, M.D., Ph.D., professor in the University of Maryland. We don't think we will be accused of undue enthusiasm for declaring that we consider "Hemmeter's Diseases of the Intestines" a monumental work. While there are excellent treatises on the subject in the German and French languages, this is the only thoroughly exhaustive one in the English language with which we are familiar. The work is in two volumes. The first, which is now before us, treats of the anatomy and physiology of the intestinal canal, of intestinal bacteria, methods of diagnosis, therapy and materia medica of intestinal diseases; diarrhea, constipation, enteralgia and enterodinia, meteorism, dystrophia, enteritis, colitis, dysentery, intestinal ulcers, intestinal neoplasms, etc. The section on the anatomy and histology of the intestines is from the pen of J. Holmes Smith, assistant professor of anatomy; the section on the examination of the feces and urine, from Harry Adler, assistant professor of diseases of the stomach; the section on intestinal bacteria is by William Royal Stokes, assistant professor of bacteriology and pathology—all three from the University of Maryland, while the section on diseases of the rectum is by Thomas Charles Martin, professor of proctology, Cleveland College of Physicians and Surgeons. The therapeutic part of the book—the part that is most important—is very complete. The illustrations,

some of which are in color, are excellent. Each chapter contains an exhaustive bibliography of the subject, and a very complete index enhances the value of the volume. (P. Blakiston's Son & Co., Philadelphia. 1901. 740 pages. Price, \$5 per volume.)

In the June issue of the ARCHIVES we reviewed briefly the first two volumes of the *SYSTEM OF PHYSIOLOGIC THERAPEUTICS*, edited by Solomon Solis-Cohen. Volumes III and IV are now at hand, and excellent volumes they are. They form as complete a treatise on climatology, health resorts, mineral springs, etc., as we have ever had the good fortune to see, while that part which treats of the climate and health resorts of the United States is the most complete ever issued. The author of the two volumes is the well-known climatologist, F. Parkes Weber, with the collaboration for America of Guy Hinsdale, secretary of the American Climatological Association. There is also a special article by Dr. Titus M. Coan on the climate of the Hawaiian Islands. The first part of the treatise deals with the fundamental factors of climate, their influence in health and disease, etc. The second part describes the health resorts of Europe, Asia, Africa, Australia, and America. While the description of the individual health-resort is brief, it is sufficiently explicit to allow us to derive an idea of its indications and contra-indications. Part III deals with the various diseases and their climatic treatment, pointing out what resort is most indicated in a given disease. It also deals with the general management of patients at health resorts, touches upon the milk cure, grape cure, mineral-water cure, etc. In short, any physician who has occasion to send patients to some health resort or give advice about a change of climate, cannot afford to be without this treatise. (P. Blakiston's Son & Co., Philadelphia. Eleven volumes. Cloth. Price for complete set, \$22.)

The popularity of HARE's *TEXT-BOOK OF PRACTICAL THERAPEUTICS* continues unabated, as is evidenced by the fact that the first 2,000 copies of the seventh edition were exhausted within six weeks of the day of issue. The eighth edition, which is now before us, has been thoroughly revised, enlarged, and partly rewritten. It is a good book. Its secret of success lies in the fact that it is true to the adjective in its title—namely, it is thoroughly *practical*. Hundreds of pages are not occupied with laboratory experiments upon animals, with their questionable results and still more questionable deductions. The information about drugs is concise and to the point, and is just what the physician wants in his every-day practice. The remedial measures other than drugs, such as climate, heat, cold, lavage, transfusion, are treated of briefly but satisfactorily. Two excellent indices increase the value of the book. (Lea Bros. & Co., Philadelphia and New York.)

John Uri Lloyd, who has been long and favorably known as a chemist and botanist, is decidedly improving as a litterateur, and is on the way to make for himself an enduring name in the field of *belles-lettres*. His "Stringtown on the Pike" was an interesting book, though the melodramatic and mystical element was still too strongly in evidence; in *WARWICK OF THE KNOBS*, Professor Lloyd's latest book, we have a work well worth reading. In Preacher Warwick and Joshua he has succeeded in giving us living types and not marionettes; and though there is practically no plot in the book, it will be read with interest from



beginning to end. The book has no satisfactory ending. May we venture the guess that Prof. Lloyd is engaged in writing another story, in which Mary, Joshua, Lionel, etc., will reappear under different circumstances, and in different relations to each other? At any rate, such a book would be of great interest to all those who read "Warwick of the Knobs." (Dodd, Mead & Co., New York. Price, \$1.50.)

**LIBERTINISM AND MARRIAGE.** By Dr. Louis Jullien, Professeur Agrégé des Facultés de Médecine de Paris, etc. This is a peculiar book. It is devoted entirely to the social aspects of gonorrhea or urethritis: What effect it has or should have on the postponement of marriage, how it affects the married couple, how to attempt the cutting short of an acute gonorrhea, if a postponement of the marriage ceremony is impossible, how to find out whether a wife infected her husband, or whether it was simply the reawakening of a latent gonorrhea in the latter, what a danger lurks for the wife in a latent, apparently cured gonorrhea in the husband, etc., etc. In spite of a good deal of superfluous verbiage and an extremely flowery style—which is due to a faithful translation from the French—the book contains much that will prove of interest to the physician who has a large practice in genito-urinary diseases. (F. A. Davis Company, Philadelphia.)

**LES MALADIES DE L'ORIENTATION ET DE L'EQUILIBRE.** Par J. Grasset, Professeur de Clinique médicale à l'Université de Montpellier. The important and difficult question of orientation and equilibrium has always been of great interest to physiologists and biologists. But very little has been done in this direction until now, because experiments on animals alone do not suffice to explain the more complex functions of the nervous system in man. It is only by the method which Charcot has named the anatomo-clinical, that we can arrive at more or less trustworthy results. It is this method that Grasset has applied to his work in trying to explain the complex symptoms that we meet at the bedside—such as vertigo, ataxia, disorders of the muscular sense, etc. This work may be said to be the first in this line. (Felix Alcan, Paris. Price, 6 francs. Cloth.)

Last year we had occasion to comment on the fiftieth anniversary of Blakiston's **PHYSICIANS' VISITING LIST**. The fifty-first edition is now before us. It of course contains all the valuable features that have endeared it to the profession for the past half century. (P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. Prices range from \$1 to \$2.25, according to size and binding.)

**DR. JESSNER'S COMPEND OF SKIN AND SYPHILITIC DISEASES** is very favorably regarded in Germany, and a second edition—thoroughly revised and enlarged—has recently made its appearance. We have given the volume a careful examination and consider it one of the best books on the subject, both for student and general practitioner. The classification is good, the description of the various types of disease is clear and concise, and the differential diagnosis is treated with considerable detail. The therapeutic part of the work is remarkably complete, and the directions given are plain and to the point. The physician is not left to guess at the quantities of ingredients, etc., but complete formulæ are given. An interesting

chapter on cosmetics, treating of soaps, fats, powders, rouges, hair oils, hair pomades, hair dyes, depilatories, etc., adds value to the book. A formulary containing 166 formulæ of various salves, mixtures, applications, etc., completes the volume. (A. Stuber's Verlag, Würzburg.)

**THE WÜRZBURGER ABHANDLUNGEN AUS DEM GESAMTGEBIET DER PRAKTISCHEN MEDIZIN** continue to appear with commendable promptness and regularity. The tenth number of volume I is by Prof. W. Kirchner, and treats of injuries to the ear; No. 11 is by Prof. F. Riedinger, and considers the treatment of empyema; No. 12 is devoted to the principles of dietetic treatment of stomach diseases, and is from the pen of Docent-Dr. N. Strauss. No. 1 of volume II, in a concise but thoroughly satisfactory manner, treats of the causes and treatment of rupture of the uterus, and is from the pen of Prof. Otto von Franqué. The significance of bacteriology in the pathology of the eye is the subject of No. 2 of this volume. The author is Dr. P. Römer. The number will be read with interest, even by those who make no specialty of treating eye diseases. Incidentally, the question whether bacteria can penetrate a perfectly healthy mucous membrane, or whether some lesion be absolutely necessary before they can make their entrance, is touched upon. The latest issue to reach the library table is No. 3 of the second volume, which deals with the treatment of versions and flexions of the uterus, the writer being Prof. Wilhelm Nieberding. It is a very readable brochure. The author is not so opposed to pessaries as are most of the present-day gynecologists. He insists, of course, on care and skill in their introduction. (A. Stuber's Verlag, Würzburg. Price of each number, 75 Pf.)

**DIE AMBULANTE BEHANDLUNG DER UNTERSCHENKELGESCHWÜRE.** In this brochure of fifty-three pages, the well-known dermatologist, Dr. S. Jessner, considers in detail the treatment of ulcers of the leg (without confining patient to bed). He dwells upon all the modern siccative and antiseptic preparations, and gives in detail his own method of treatment, based on experience with hundreds of patients during a period of many years. The method appears promising and rational, and has the advantage of making the cost of the treatment very slight, which with poor patients—the class of people who most frequently suffer with varicose ulcers—is an important consideration. (A. Stuber's Verlag, Würzburg. Price, 80 Pf.)

**DIE SCHWINDSUCHT PRAKTIISCHE WINKE FÜR GESUNDE UND KRANKE.** Von Dr. Med. Fischer. A popular pamphlet, of about fifty pages, on the prophylaxis of tuberculosis, etc. It is well written, but presents nothing new or original. The author strongly warns against drinking raw milk "as one can never be sure that it is free from tubercle bacilli." This was written before July 23, 1901. (A. Stuber's Verlag, Würzburg. 75 Pf.)

**THE TRANSACTIONS** of the State Medical Association of Texas, for 1901, form a creditable, well-bound volume of about 400 pages. The papers in this volume are of the average quality—not bad, but not any too good. Dr. Q. C. Chase's paper protesting against the use of calcium carbide in inoperable carcinoma of the uterus was published in abstract in the columns of the **ARCHIVES**, in the October number of this year. (H. A. West, of Galveston, Secretary.)

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